State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

June 6, 2024 through June 12, 2024
[Report Updated: August 1, 2024]

A Community Air Monitoring and Sampling Plan (CAMSP) was prepared to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling was performed from June 6 through June 12, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrograms (µg), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from June 6 through July 12 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 µg per cubic meter (µg/m^3) screening level.

Air quality monitoring for fine particulate matter, with a particle size diameter of 2.5 µg or less ($PM_{2.5}$) is not included in the weekly reports. This monitoring is being performed by the Department of Health or EPA at six locations in Lahaina and can be accessed at: https://fire.airnow.gov/.

Air sampling was conducted daily at all four community locations in accordance with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to the Site Screening Action Levels (SSAL) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µg/m^3 screening level, as shown in **Table 1**.

Air Sampling Results

There were 28 samples collected for asbestos fibers at each of the monitoring locations throughout this reporting period. Of the 28 samples collected, one sample collected at Leialii Hawaiian Homelands on June

9 was not analyzed by the lab because the sample filter was damaged. With the exception of this sample, all analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory analytical sensitivity; results are presented in **Table 2**. Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on June 7, 10 and 11
- WW Pump Station #4 on June 6 through 8; and June 10 through 12
- Lahaina Intermediate School on June 6 through 8; and June 10 and 12
- Lahaina Boys & Girls Club on June 6 through 8; and June 11

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analysis; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3, respectively, for total dust as time-weighted averages (National Institute for Occupational Safety and Health [NIOSH] and Occupational Safety and Health Administration [OSHA]). While total dust sampling has not occurred, results of size-discriminated particulate sampling (PM_{10}) at these locations do not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected in ambient air samples at all community sampling locations. Although metals were detected, all concentrations were below the SSALs.

The laboratory data sheets for the asbestos and metal sample results are included in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally south-southeast direction. A summary of meteorological data is presented in **Table 3.**

Quality Control Summary

This section presents quality control measures conducted throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOP) are included in the CAMSP.
Air monitoring is conducted with Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer's procedures.
Asbestos samples are collected with Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a

- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM10
Maui Wildfires, Lahaina
June 6 through June 12, 2024
[Report Updated: August 1, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
6/6/2024	Leialii Hawaiian Homelands (AM-01)	9.0
	WW Pump Station #4 (AM-02)	18
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	8.6
6/7/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	10
6/8/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	9.8
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	7.5
6/9/2024	Leialii Hawaiian Homelands (AM-01)	8.1
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Boys & Girls Club (AM-04)	6.9
6/10/2024	Leialii Hawaiian Homelands (AM-01)	17
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	10
6/11/2024	Leialii Hawaiian Homelands (AM-01)	9.6
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	9.0
	Lahaina Boys & Girls Club (AM-04)	6.0
6/12/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	8.9

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
June 6 through June 12, 2024
[Report Updated: August 1, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Screening Level*		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
6/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000189	0.00365	0.0115	0.0000267	ND	0.00446	0.000720	0.160	0.00101	0.0229	0.00705	0.00216	0.000313	0.00000513	0.00278	0.0662
	WW Pump Station #4 (AM-02)	<0.0024	0.000125	0.000495	0.00451	0.0000152	ND	0.00239	0.000402	0.0593	0.00125	0.0139	0.00211	0.00154	0.000323	0.00000498	0.00194	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000954	0.000525	0.00539	0.0000334	ND	0.00404	0.000902	0.0591	0.000849	0.0220	0.00235	0.00261	0.000304	0.00000506	0.00288	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000139	0.000532	0.00470	0.0000169	ND	0.00290	0.000489	0.0515	0.00129	0.0170	0.00216	0.00176	0.000301	0.00000484	0.00195	ND
6/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000161	0.00210	0.00688	0.0000175	ND	0.00402	0.000713	0.129	0.00114	0.0191	0.00551	0.00222	0.000321	0.00000586	0.00252	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000138	0.000575	0.00362	0.0000118	ND	0.00188	0.000308	0.0505	0.00112	0.0104	0.00195	0.00139	0.000329	0.00000574	0.00147	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000937	0.000430	0.00511	0.0000491	ND	0.00479	0.00112	0.0800	0.00149	0.0241	0.00217	0.00313	0.000380	0.00000584	0.00245	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000118	0.000509	0.00496	0.0000217	ND	0.00325	0.000617	0.0432	0.00105	0.0214	0.00184	0.00186	0.000353	0.00000596	0.00224	ND
6/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000131	0.00162	0.00840	0.0000247	ND	0.00547	0.00113	0.0803	0.00110	0.0271	0.00319	0.00328	0.000330	0.00000563	0.00354	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000133	0.000388	0.00365	0.0000109	ND	0.00213	0.000281	0.0421	0.000942	0.00975	0.00272	0.00122	0.000275	0.00000554	0.00135	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000920	0.000264	0.00303	0.0000234	ND	0.00242	0.000396	0.0388	0.000547	0.0109	0.00224	0.00146	0.000285	0.00000573	0.00142	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000153	0.000509	0.00433	0.0000174	ND	0.00308	0.000505	0.0229	0.000912	0.0178	0.00121	0.00177	0.000294	0.00000550	0.00183	ND
6/9/2024	Leialii Hawaiian Homelands (AM-01)		0.000247	0.00415	0.00979	0.0000212	ND	0.00519	0.000881	0.0661	0.00126	0.0249	0.00298	0.00269	0.000261	0.00000508	0.00279	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000163	0.000589	0.00571	0.0000189	ND	0.00266	0.000498	0.0557	0.00156	0.0171	0.00323	0.00181	0.000270	0.00000510	0.00195	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000831	0.000280	0.00370	0.0000215	ND	0.00284	0.000449	0.0604	0.00126	0.0118	0.00268	0.00165	0.000229	0.00000448	0.00137	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000128	0.000554	0.00507	0.0000191	ND	0.00349	0.000617	0.0231	0.00149	0.0219	0.00131	0.00202	0.000252	0.00000476	0.00193	ND
6/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000233	0.00510	0.00947	0.0000236	ND	0.00586	0.00106	0.0705	0.000882	0.0283	0.00325	0.00290	0.000295	0.00000547	0.00327	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000131	0.000642	0.00466	0.0000155	ND	0.00255	0.000501	0.0456	0.00169	0.0150	0.00257	0.00176	0.000268	0.00000500	0.00182	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000823	0.000416	0.00448	0.0000411	ND	0.00291	0.000550	0.0437	0.000566	0.0146	0.00320	0.00151	0.000273	0.00000515	0.00165	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000155	0.000731	0.00684	0.0000308	ND	0.00413	0.000800	0.0263	0.00224	0.0290	0.00119	0.00230	0.000318	0.00000562	0.00249	ND
6/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000300	0.00917	0.0219	0.0000673	0.000168	0.0144	0.00313	0.0675	0.00126	0.0755	0.00289	0.00821	0.000505	0.00000741	0.00895	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000132	0.000597	0.00485	0.0000145	ND	0.00236	0.000397	0.0462	0.00132	0.0135	0.00268	0.00139	0.000293	0.00000583	0.00163	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000815	0.000411	0.00455	0.0000419	ND	0.00305	0.000592	0.0469	0.000601	0.0163	0.00371	0.00172	0.000293	0.00000559	0.00178	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000101	0.000490	0.00436	0.0000148	ND	0.00298	0.000457	0.0168	0.000841	0.0162	0.00121	0.00150	0.000258	0.00000524	0.00157	ND
6/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000227	0.00342	0.00914	0.0000341	ND	0.00575	0.00106	0.0710	0.000884	0.0295	0.00418	0.00311	0.000247	0.00000263	0.00347	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000102	0.000536	0.00389	0.0000113	ND	0.00208	0.000323	0.0482	0.000978	0.0106	0.00241	0.00122	0.000166	0.00000239	0.00121	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000672	0.000379	0.00373	0.0000276	ND	0.00304	0.000549	0.0472	0.000640	0.0147	0.00298	0.00168	0.000166	0.00000187	0.00153	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000124	0.00124	0.00854	0.0000379	ND	0.00639	0.00120	0.0294	0.00181	0.0442	0.00155	0.00348	0.000297	0.00000269	0.00356	ND
95% Upper Confidence Limit[2]		NA	0.000160	0.00201	0.00729	0.0000300	NA	0.00455	0.000880	0.0678	0.00129	0.0250	0.00319	0.00258	0.000320	0.00000560	0.00275	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

ug/m3 = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Asbestos Sample not analyzed by lab due to damage to filter

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
June 6 through June 12, 2024
[Report Updated: August 1, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/6/2024	AM-01	Leialii Hawaiian Homelands	1.3	SSE	81	64	761.5
6/6/2024	AM-02	WW Pump Station #4	1.0	SSE	82	69	763.7
6/6/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	67	754.0
6/6/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	79	68	763.3
6/7/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	83	63	761.5
6/7/2024	AM-02	WW Pump Station #4	1.1	SE	82	70	763.7
6/7/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	68	754.1
6/7/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	79	69	763.3
6/8/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	82	61	762.2
6/8/2024	AM-02	WW Pump Station #4	1.0	SSE	82	67	764.4
6/8/2024	AM-03	Lahaina Intermediate School	1.5	ESE	80	63	754.7
6/8/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	66	764.0
6/9/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	83	57	762.1
6/9/2024	AM-02	WW Pump Station #4	1.2	S	81	64	764.2
6/9/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	62	754.5
6/9/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	63	763.8
6/10/2024	AM-01	Leialii Hawaiian Homelands	1.4	SE	84	52	762.4
6/10/2024	AM-02	WW Pump Station #4	1.1	S	83	60	764.5
6/10/2024	AM-03	Lahaina Intermediate School	1.2	SE	80	59	754.8
6/10/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	61	764.1
6/11/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	83	57	761.8
6/11/2024	AM-02	WW Pump Station #4	1.1	SSE	82	64	763.9
6/11/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	61	754.2
6/11/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	79	64	763.5
6/12/2024	AM-01	Leialii Hawaiian Homelands	0.8	ESE	82	64	761.0
6/12/2024	AM-02	WW Pump Station #4	1.1	SSE	81	71	763.1
6/12/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	69	753.6
6/12/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	79	70	762.6

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in depth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-060624-AB** **Sample Description: DK797354**

EMSL Sample Number:	042411795-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7127.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0001 **Customer Sample:** MFL-AM01-060624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A7	None Detected									
A5	F4	None Detected									
A5	I9	None Detected									
A6	G4	None Detected									
A6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-060624-AB** **Sample Description: DK797368**

EMSL Sample Number:	042411795-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0002 **Customer Sample:** MFL-AM02-060624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	A4	None Detected									
B1	D7	None Detected									
B1	J5	None Detected									
B2	H8	None Detected									
B2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-060624-AB** **Sample Description: DK797351**

EMSL Sample Number:	042411795-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7025.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0003 **Customer Sample:** MFL-AM03-060624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I9	None Detected									
B5	G4	None Detected									
B5	D7	None Detected									
B6	B3	None Detected									
B6	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/18/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-060624-AB** **Sample Description: DK797345**

EMSL Sample Number:	042411795-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0004 **Customer Sample:** MFL-AM04-060624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	B5	None Detected									
C1	E9	None Detected									
C1	H6	None Detected									
C2	C7	None Detected									
C2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060624-AB** **Sample Description: DK797398**

EMSL Sample Number:	042411795-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0005 **Customer Sample:** MFL-FB01-060624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	G4	None Detected									
C5	D5	None Detected									
C5	A3	None Detected									
C6	I2	None Detected									
C6	F6	None Detected									
C6	B8	None Detected									
C7	A1	None Detected									
C7	E8	None Detected									
C7	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060724-AB**		**Sample Description:**	**DK797366**
EMSL Sample Number:	042411795-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7019.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0006 **Customer Sample:** MFL-AM01-060724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	G5	None Detected									
D1	D3	None Detected									
D1	A6	None Detected									
D2	C4	None Detected									
D2	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-060724-AB** **Sample Description: DK797374**

EMSL Sample Number:	042411795-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0007 **Customer Sample:** MFL-AM02-060724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J4	None Detected									
D5	F7	None Detected									
D5	B3	None Detected									
D6	H3	None Detected									
D6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-060724-AB** **Sample Description: DK797359**

EMSL Sample Number:	042411795-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6947.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0008 **Customer Sample:** MFL-AM03-060724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	E3	None Detected									
E1	B5	None Detected									
E2	I8	None Detected									
E2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060724-AB**		**Sample Description:**	**DK797358**
EMSL Sample Number:	042411795-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7188.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0009 **Customer Sample:** MFL-AM04-060724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A6	None Detected									
E5	E8	None Detected									
E5	I5	None Detected									
E6	H9	None Detected									
E6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060724-AB** **Sample Description: DK797331**

EMSL Sample Number:	042411795-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0010 **Customer Sample:** MFL-FB01-060724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	H8	None Detected									
F1	H4	None Detected									
F1	D5	None Detected									
F1	A7	None Detected									
F2	I7	None Detected									
F2	F3	None Detected									
F2	C5	None Detected									
F3	J6	None Detected									
F3	G5	None Detected									
F3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060824-AB**		**Sample Description:**	**DK797378**
EMSL Sample Number:	042411795-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0011 **Customer Sample:** MFL-AM01-060824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	B3	None Detected									
F5	E8	None Detected									
F5	H7	None Detected									
F6	A6	None Detected									
F6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060824-AB**		**Sample Description:**	**DK797329**
EMSL Sample Number:	042411795-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0012 **Customer Sample:** MFL-AM02-060824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I4	None Detected									
G1	E4	None Detected									
G1	A5	None Detected									
G2	H6	None Detected									
G2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-060824-AB** **Sample Description: DK797335**

EMSL Sample Number:	042411795-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6960.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0013 **Customer Sample:** MFL-AM03-060824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I6	None Detected									
G5	F3	None Detected									
G5	D7	None Detected									
G6	B3	None Detected									
G6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060824-AB**		**Sample Description:**	**DK797330**
EMSL Sample Number:	042411795-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0014 **Customer Sample:** MFL-AM04-060824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H5	None Detected									
H1	D2	None Detected									
H1	A7	None Detected									
H2	C3	None Detected									
H2	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060824-AB** **Sample Description:** **DK797347**

EMSL Sample Number:	042411795-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0015 **Customer Sample:** MFL-FB01-060824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J4	None Detected									
H5	H7	None Detected									
H5	E3	None Detected									
H5	A4	None Detected									
H6	B7	None Detected									
H6	E5	None Detected									
H6	I8	None Detected									
H7	A6	None Detected									
H7	D9	None Detected									
H7	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	N/A
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060924-AB**	**Sample Description:**	**DL244915**
EMSL Sample Number:	042411795-0016	Sample Matrix:	Air
Magnification used for fiber counting:	N/A	Volume (L) :	7207.2
Aspect ratio for fiber definition:	N/A	Area of original collection filter (mm^2):	385
Minimum Length (µm):	N/A	Grid Opening Area (mm^2):	N/A
Chi^2 Test for Random Distribution on Filter:	N/A	Grid Openings Analyzed:	N/A
Minimum Level of analysis (chrysotile):	CD	Analyst:	N/A
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	N/A		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**Not Analyzed**	**Limit of Detection (Structures/cc):**	**Not Analyzed**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**Not Analyzed**					
Total Amphibole	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures	**-**	**Not Analyzed**					

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**Not Analyzed**					
Total Amphibole (PCMe)	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures (PCMe)	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures (PCMe)	**-**	**Not Analyzed**					

Comment

Unable to analyze sample. Filter was received damaged.

Robyn Ray
Approved Signatory

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EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060924-AB**	**Sample Description:**	**DL244844**
EMSL Sample Number:	042411795-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7203.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0017 **Customer Sample:** MFL-AM02-060924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	C6	None Detected									
I1	F4	None Detected									
I1	J5	None Detected									
I2	H9	None Detected									
I2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060924-AB**		**Sample Description:**	**DL244853**
EMSL Sample Number:	042411795-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7297.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0018 **Customer Sample:** MFL-AM03-060924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J3	None Detected									
I5	H6	None Detected									
I5	D4	None Detected									
I6	I6	None Detected									
I6	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-060924-AB** **Sample Description: DL244851**

EMSL Sample Number:	042411795-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0019 **Customer Sample:** MFL-AM04-060924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I7	None Detected									
J1	F4	None Detected									
J1	B3	None Detected									
J2	G8	None Detected									
J2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060924-AB** **Sample Description: DL244814**

EMSL Sample Number:	042411795-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0020 **Customer Sample:** MFL-FB01-060924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J8	None Detected									
J2	G3	None Detected									
J2	E5	None Detected									
J5	A7	None Detected									
J6	B4	None Detected									
J6	F7	None Detected									
J6	I5	None Detected									
J7	C3	None Detected									
J7	D8	None Detected									
J7	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/20/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-060924-AB** **Sample Description:** **DL244812**

EMSL Sample Number:	042411795-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0021 **Customer Sample:** MFL-LB01-060924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J9	None Detected									
K1	H4	None Detected									
K1	D2	None Detected									
K1	A5	None Detected									
K2	C7	None Detected									
K2	E4	None Detected									
K2	I5	None Detected									
K3	H8	None Detected									
K3	G4	None Detected									
K3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411795
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/12/2024 09:30 AM
Analysis Date:	06/18/2024
Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042411795-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411795
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411795-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J8	None Detected									
A2	J4	None Detected									
A2	G3	None Detected									
A2	E7	None Detected									
A3	B2	None Detected									
A3	D6	None Detected									
A3	H9	None Detected									
A4	A8	None Detected									
A4	C4	None Detected									
A4	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411795

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED
24 JUN 12 AM10:09
EMSL
CINNAMINSON, NJ

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1500 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	~~020~~ 21

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-060624-AB	DK797354	7,127.410	06/06/24 1101
MFL-AM02-060624-AB	DK797368	7,178.534	06/06/24 1123
MFL-AM03-060624-AB	DK797351	7,025.617	06/06/24 1300
MFL-AM04-060624-AB	DK797345	7,205.135	06/06/24 1323
MFL-FB01-060624-AB	DK797398	0	06/06/24 1200
MFL-AM01-060724-AB	DK797366	7,019.617	06/07/24 1035
MFL-AM02-060724-AB	DK797374	7,206.192	06/07/24 1125
MFL-AM03-060724-AB	DK797359	6,947.634	06/07/24 1244

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample MFL-AM01-060924-AB received with damaged filter. Unable to analyze. All other samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 06/10/24 1100	Received by: EFX
Relinquished by:		Date/Time:	Received by: Date/Time 6/12/24 9:30A

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

(21) 8

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411795

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-060724-AB	DK797358	7,188.768	06/07/24 1325
MFL-FB01-060724-AB	DK797331	0	06/07/24 1200
MFL-AM01-060824-AB	DK797378	7,170.768	06/08/24 1039
MFL-AM02-060824-AB	DK797329	7,178.723	06/08/24 1120
MFL-AM03-060824-AB	DK797335	6,960.240	06/08/24 1251
MFL-AM04-060824-AB	DK797330	7,110.038	06/08/24 1333
MFL-FB01-060824-AB	DK797347	0	06/08/24 1200
MFL-AM01-060924-AB	DL244915	7,207.162	06/09/24 1058
MFL-AM02-060924-AB	DL244844	7,203.768	06/09/24 1115
MFL-AM03-060924-AB	DL244853	7,297.189	06/09/24 1306
MFL-AM04-060924-AB	DL244851	7,155.549	06/09/24 1325
MFL-FB01-060924-AB	DL244814	0	06/09/24 1200
MFL-LB01-060924-AB	DL244812	0	06/09/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUN 12 AM 10:09

Method of Shipment:	Fedex		Sample Condition Upon Receipt:		
Relinquished by:	Shaina Epstein	Date/Time: 06/10/24 1100	Received by:	EFX	Date/Time 6/12/24 9:30 A
Relinquished by:		Date/Time:	Received by:		Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:

Kierra Johnson 06/21/2024 and Shanna Vasser 6/24/2024

Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ

Collection date(s): 06/06/2024 – 06/09/2024

Report No: 42411795

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. Sample MFL-AM01-060924-AB was received by the laboratory with a damaged filter, therefore it was unable to be analyzed.

Notes: None

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/20/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061024-AB**		**Sample Description:**	**DL244863**
EMSL Sample Number:	042412163-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7044.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0001 **Customer Sample:** MFL-AM01-061024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A3	None Detected									
A5	E7	None Detected									
A5	I9	None Detected									
A6	B6	None Detected									
A6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061024-AB**		**Sample Description:**	**DL244893**
EMSL Sample Number:	042412163-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7188.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0002 **Customer Sample:** MFL-AM02-061024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B7	None Detected									
B2	E4	None Detected									
B2	I6	None Detected									
B3	A3	None Detected									
B3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061024-AB**		**Sample Description:**	**DL244821**
EMSL Sample Number:	042412163-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7287.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0003 **Customer Sample:** MFL-AM03-061024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A3	None Detected									
B5	D9	None Detected									
B5	G5	None Detected									
B6	H7	None Detected									
B6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061024-AB** **Sample Description: DL244862**

EMSL Sample Number:	042412163-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0004 **Customer Sample:** MFL-AM04-061024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J3	None Detected									
C1	F6	None Detected									
C1	C4	None Detected									
C2	A4	None Detected									
C2	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061024-AB** **Sample Description: DL244817**

EMSL Sample Number:	042412163-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0005 **Customer Sample:** MFL-FB01-061024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I2	None Detected									
C5	I7	None Detected									
C5	E5	None Detected									
C5	C8	None Detected									
C5	B4	None Detected									
C6	A8	None Detected									
C6	B5	None Detected									
C6	D9	None Detected									
C6	H8	None Detected									
C6	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061124-AB**		**Sample Description:**	**DL244908**
EMSL Sample Number:	042412163-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0006 **Customer Sample:** MFL-AM01-061124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	C3	None Detected									
D1	G8	None Detected									
D1	J5	None Detected									
D3	H6	None Detected									
D3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061124-AB**		**Sample Description:**	**DL244816**
EMSL Sample Number:	042412163-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7272.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0007 **Customer Sample:** MFL-AM02-061124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A6	None Detected									
D5	F3	None Detected									
D5	I7	None Detected									
D7	J8	None Detected									
D7	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061124-AB** **Sample Description: DL244815**

EMSL Sample Number:	042412163-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7086.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0008 **Customer Sample:** MFL-AM03-061124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B6	None Detected									
E2	F4	None Detected									
E2	I7	None Detected									
E4	H3	None Detected									
E4	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061124-AB**		**Sample Description:**	**DL244869**
EMSL Sample Number:	042412163-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0009 **Customer Sample:** MFL-AM04-061124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I8	None Detected									
E5	F3	None Detected									
E5	B4	None Detected									
E6	J6	None Detected									
E6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061124-AB** **Sample Description:** **DL244846**

EMSL Sample Number:	042412163-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0010 **Customer Sample:** MFL-FB01-061124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A7	None Detected									
F1	D4	None Detected									
F1	G9	None Detected									
F1	J4	None Detected									
F2	B2	None Detected									
F2	E7	None Detected									
F2	I5	None Detected									
F3	J3	None Detected									
F3	H6	None Detected									
F3	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061224-AB**		**Sample Description:**	**DL244914**
EMSL Sample Number:	042412163-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0011 **Customer Sample:** MFL-AM01-061224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F7	A7	None Detected									
F7	D4	None Detected									
F7	H5	None Detected									
F8	C5	None Detected									
F8	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061224-AB**		**Sample Description:**	**DL244854**
EMSL Sample Number:	042412163-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7117.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0012 **Customer Sample:** MFL-AM02-061224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J7	None Detected									
G2	F4	None Detected									
G2	A6	None Detected									
G3	B6	None Detected									
G3	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061224-AB**	**Sample Description:**	**DL244874**
EMSL Sample Number:	042412163-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7115.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	9		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0013 **Customer Sample:** MFL-AM03-061224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I9	None Detected									
G5	E7	None Detected									
G5	B4	None Detected									
G6	H8	None Detected									
G6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061224-AB**	**Sample Description:**	**DL244864**
EMSL Sample Number:	042412163-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7210.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0014 **Customer Sample:** MFL-AM04-061224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H4	None Detected									
H1	E7	None Detected									
H1	A3	None Detected									
H2	D8	None Detected									
H2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	06/25/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061224-AB** **Sample Description: DL244856**

EMSL Sample Number:	042412163-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0015 **Customer Sample:** MFL-FB01-061224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	I8	None Detected									
H6	H4	None Detected									
H6	F3	None Detected									
H6	D6	None Detected									
H6	A9	None Detected									
H7	B3	None Detected									
H7	C6	None Detected									
H7	E4	None Detected									
H7	H2	None Detected									
H7	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/20/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042412163-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412163-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A9	None Detected									
A1	C6	None Detected									
A1	F6	None Detected									
A1	J4	None Detected									
A2	B7	None Detected									
A2	F4	None Detected									
A2	J3	None Detected									
A3	A5	None Detected									
A3	D3	None Detected									
A3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042412163

RECEIVED EMSL CINNAMINSON, NJ 24 HR 2 AM 11: 30

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only: 042412163

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAccounting@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-189-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires- Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-061024-AB	DL244863	7,044.296	06/10/24 1059
MFL-AM02-061024-AB	DL244893	7,188.202	06/10/24 1114
MFL-AM03-061024-AB	DL244821	7,287.043	06/10/24 1259
MFL-AM04-061024-AB	DL244862	7,208.687	06/10/24 1318
MFL-FB01-061024-AB	DL244~~921~~817	0	06/10/24 1200
MFL-AM01-061124-AB	DL244908	7,243.236	06/11/24 1053
MFL-AM02-061124-AB	DL244816	7,272.335	06/11/24 1112
MFL-AM03-061124-AB	DL244815	7,068.222	06/11/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 06/13/24 1100	Received by: CS Date/Time 6-17-24
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of 2

150

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUN 17 AM 11:30

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042412163

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-061124-AB	DL244869	7,251.12	06/11/24 1320
MFL-FB01-061124-AB	DL244846	0	06/11/24 1200
MFL-AM01-061224-AB	DL244914	7,191.072	06/12/24 1057
MFL-AM02-061224-AB	DL244854	7,117.200	06/12/24 1115
MFL-AM03-061224-AB	DL244874	7,115.360	06/12/24 1259
MFL-AM04-061224-AB	DL244864	7,210.152	06/12/24 1318
MFL-FB01-061224-AB	DL244856	0	06/12/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 06/13/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/26/2024 and Shanna Vasser 6/27/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/10/2024 – 06/12/2024
Report No: 42412163

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

June 25, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 06/17/24 15:34.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-060624-HM	4061725-01	Air	06/06/24 23:59	06/17/24 15:34
MFL-AM02-060624-HM	4061725-02	Air	06/06/24 23:59	06/17/24 15:34
MFL-AM03-060624-HM	4061725-03	Air	06/06/24 23:59	06/17/24 15:34
MFL-AM04-060624-HM	4061725-04	Air	06/06/24 23:59	06/17/24 15:34
MFL-FB01-060624-HM	4061725-05	Air	06/06/24 00:00	06/17/24 15:34
MFL-AM01-060724-HM	4061725-06	Air	06/07/24 23:59	06/17/24 15:34
MFL-AM02-060724-HM	4061725-07	Air	06/07/24 23:59	06/17/24 15:34
MFL-AM03-060724-HM	4061725-08	Air	06/07/24 23:59	06/17/24 15:34
MFL-AM04-060724-HM	4061725-09	Air	06/07/24 23:59	06/17/24 15:34
MFL-AM01-060824-HM	4061725-10	Air	06/08/24 23:59	06/17/24 15:34
MFL-AM02-060824-HM	4061725-11	Air	06/08/24 23:59	06/17/24 15:34
MFL-AM03-060824-HM	4061725-12	Air	06/08/24 23:59	06/17/24 15:34
MFL-AM04-060824-HM	4061725-13	Air	06/08/24 23:59	06/17/24 15:34
MFL-FB01-060824-HM	4061725-14	Air	06/08/24 00:00	06/17/24 15:34
MFL-AM01-060924-HM	4061725-15	Air	06/09/24 23:59	06/17/24 15:34
MFL-AM02-060924-HM	4061725-16	Air	06/09/24 23:59	06/17/24 15:34
MFL-AM03-060924-HM	4061725-17	Air	06/09/24 23:59	06/17/24 15:34
MFL-AM04-060924-HM	4061725-18	Air	06/09/24 23:59	06/17/24 15:34
MFL-LB01-060924-HM	4061725-19	Air	06/09/24 00:00	06/17/24 15:34
MFL-AM01-061024-HM	4061725-20	Air	06/10/24 23:59	06/17/24 15:34
MFL-AM02-061024-HM	4061725-21	Air	06/10/24 23:59	06/17/24 15:34

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-061024-HM	4061725-22	Air	06/10/24 23:59	06/17/24 15:34
MFL-AM04-061024-HM	4061725-23	Air	06/10/24 23:59	06/17/24 15:34
MFL-FB01-061024-HM	4061725-24	Air	06/10/24 00:00	06/17/24 15:34
MFL-AM01-061124-HM	4061725-25	Air	06/11/24 23:59	06/17/24 15:34
MFL-AM02-061124-HM	4061725-26	Air	06/11/24 23:59	06/17/24 15:34
MFL-AM03-061124-HM	4061725-27	Air	06/11/24 23:59	06/17/24 15:34
MFL-AM04-061124-HM	4061725-28	Air	06/11/24 23:59	06/17/24 15:34
MFL-AM01-061224-HM	4061725-29	Air	06/12/24 23:59	06/17/24 15:34
MFL-AM02-061224-HM	4061725-30	Air	06/12/24 23:59	06/17/24 15:34
MFL-AM03-061224-HM	4061725-31	Air	06/12/24 23:59	06/17/24 15:34
MFL-AM04-061224-HM	4061725-32	Air	06/12/24 23:59	06/17/24 15:34
MFL-FB01-061224-HM	4061725-33	Air	06/12/24 00:00	06/17/24 15:34

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060624-HM
Matrix: Air
Lab ID: 4061725-01
Sample Volume: 1887.822 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/18/24 21:58

Comments: Q8508525 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.189**	SL	**0.0333**
Arsenic	**7440-38-2**	**3.65**		**0.00808**
Barium	**7440-39-3**	**11.5**		**0.922**
Beryllium	**7440-41-7**	**0.0267**		**0.00276**
Cadmium	7440-43-9	0.0328	U	0.0639
Chromium	**7440-47-3**	**4.46**		**1.90**
Cobalt	**7440-48-4**	**0.720**		**0.0376**
Copper	**7440-50-8**	**160**	QM-4X	**2.27**
Lead	**7439-92-1**	**1.01**		**0.184**
Manganese	**7439-96-5**	**22.9**		**1.63**
Molybdenum	**7439-98-7**	**7.05**	QM-4X	**0.309**
Nickel	**7440-02-0**	**2.16**		**0.562**
Selenium	**7782-49-2**	**0.313**		**0.00772**
Thallium	**7440-28-0**	**0.00513**		**5.08E-4**
Vanadium	**7440-62-2**	**2.78**		**0.0456**
Zinc	**7440-66-6**	**66.2**	GC-BS, QB-01, QM-07	**66.2**

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060624-HM
Matrix: Air
Lab ID: 4061725-02
Sample Volume: 2075.53 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 00:48

Comments: Q8508526 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.495**		**0.00735**
Barium	**7440-39-3**	**4.51**		**0.839**
Cadmium	7440-43-9	0.0320	U	0.0581
Chromium	**7440-47-3**	**2.39**		**1.73**
Cobalt	**7440-48-4**	**0.402**		**0.0342**
Copper	**7440-50-8**	**59.3**		**2.06**
Lead	**7439-92-1**	**1.25**		**0.168**
Manganese	**7439-96-5**	**13.9**		**1.48**
Molybdenum	**7439-98-7**	**2.11**		**0.281**
Nickel	**7440-02-0**	**1.54**		**0.511**
Selenium	**7782-49-2**	**0.323**		**0.00702**
Thallium	**7440-28-0**	**0.00498**		**4.62E-4**
Vanadium	**7440-62-2**	**1.94**		**0.0415**
Zinc	7440-66-6	44.8	GC-BS, QB-01, U	60.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060624-HM
Matrix: Air
Lab ID: 4061725-02RE1
Sample Volume: 2075.53 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 15:20

Comments: Q8508526 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0152		0.00251

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060624-HM
Matrix: Air
Lab ID: 4061725-03
Sample Volume: 2030.636 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 01:07

Comments: Q8508527 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0954**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.525**		**0.00751**
Barium	**7440-39-3**	**5.39**		**0.857**
Cadmium	7440-43-9	0.0229	U	0.0594
Chromium	**7440-47-3**	**4.04**		**1.77**
Cobalt	**7440-48-4**	**0.902**		**0.0349**
Copper	**7440-50-8**	**59.1**		**2.11**
Lead	**7439-92-1**	**0.849**		**0.171**
Manganese	**7439-96-5**	**22.0**		**1.51**
Molybdenum	**7439-98-7**	**2.35**		**0.288**
Nickel	**7440-02-0**	**2.61**		**0.522**
Selenium	**7782-49-2**	**0.304**		**0.00718**
Thallium	**7440-28-0**	**0.00506**		**4.72E-4**
Vanadium	**7440-62-2**	**2.88**		**0.0424**
Zinc	7440-66-6	31.7	GC-BS, QB-01, U	61.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060624-HM
Matrix: Air
Lab ID: 4061725-03RE1
Sample Volume: 2030.636 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 15:31

Comments: Q8508527 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0334		0.00256

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060624-HM
Matrix: Air
Lab ID: 4061725-04
Sample Volume: 1686.716 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 01:23

Comments: Q8508528 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0372**
Arsenic	**7440-38-2**	**0.532**		**0.00904**
Barium	**7440-39-3**	**4.70**		**1.03**
Cadmium	7440-43-9	0.0302	U	0.0715
Chromium	**7440-47-3**	**2.90**		**2.13**
Cobalt	**7440-48-4**	**0.489**		**0.0421**
Copper	**7440-50-8**	**51.5**		**2.54**
Lead	**7439-92-1**	**1.29**		**0.206**
Manganese	**7439-96-5**	**17.0**		**1.82**
Molybdenum	**7439-98-7**	**2.16**		**0.346**
Nickel	**7440-02-0**	**1.76**		**0.629**
Selenium	**7782-49-2**	**0.301**		**0.00864**
Thallium	**7440-28-0**	**0.00484**		**5.68E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0510**
Zinc	7440-66-6	44.8	GC-BS, QB-01, U	74.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060624-HM
Matrix: Air
Lab ID: 4061725-04RE1
Sample Volume: 1686.716 m³
Filter ID:
Sampled: 06/06/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 15:43

Comments: Q8508528 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0169		0.00309

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060624-HM
Matrix: Air
Lab ID: 4061725-05
Sample Volume: 1887.822 m³
Filter ID:
Sampled: 06/06/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/19/24 01:40

Comments: Q8508531 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0194	SL, U	0.0333
Arsenic	**7440-38-2**	**0.0406**	FB-01	**0.00808**
Barium	7440-39-3	0.744	U	0.922
Cadmium	7440-43-9	9.32E-4	U	0.0639
Chromium	7440-47-3	1.01	U	1.90
Cobalt	7440-48-4	0.0130	U	0.0376
Copper	7440-50-8	1.01	U	2.27
Lead	7439-92-1	0.0525	U	0.184
Manganese	7439-96-5	0.225	U	1.63
Molybdenum	7439-98-7	0.157	U	0.309
Nickel	7440-02-0	0.437	U	0.562
Selenium	7782-49-2	0.00612	U	0.00772
Thallium	7440-28-0	1.59E-4	U	5.08E-4
Vanadium	7440-62-2	0.0386	U	0.0456
Zinc	7440-66-6	24.6	GC-BS, QB-01, U	66.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060624-HM
Matrix: Air
Lab ID: 4061725-05RE1
Sample Volume: 1887.822 m³
Filter ID:
Sampled: 06/06/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/20/24 15:53

Comments: Q8508531 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	6.25E-4	U	0.00276

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060724-HM
Matrix: Air
Lab ID: 4061725-06
Sample Volume: 1858.462 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 01:54

Comments: Q8508529 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.161**	SL	**0.0338**
Arsenic	**7440-38-2**	**2.10**		**0.00820**
Barium	**7440-39-3**	**6.88**		**0.937**
Cadmium	7440-43-9	0.0448	U	0.0649
Chromium	**7440-47-3**	**4.02**		**1.93**
Cobalt	**7440-48-4**	**0.713**		**0.0382**
Copper	**7440-50-8**	**129**		**2.30**
Lead	**7439-92-1**	**1.14**		**0.187**
Manganese	**7439-96-5**	**19.1**		**1.65**
Molybdenum	**7439-98-7**	**5.51**		**0.314**
Nickel	**7440-02-0**	**2.22**		**0.571**
Selenium	**7782-49-2**	**0.321**		**0.00784**
Thallium	**7440-28-0**	**0.00586**		**5.16E-4**
Vanadium	**7440-62-2**	**2.52**		**0.0463**
Zinc	7440-66-6	36.9	GC-BS, QB-01, U	67.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060724-HM
Matrix: Air
Lab ID: 4061725-06RE1
Sample Volume: 1858.462 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 16:04

Comments: Q8508529 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0175		0.00280

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060724-HM
Matrix: Air
Lab ID: 4061725-07
Sample Volume: 2107.443 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 02:11

Comments: Q8508533 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.138**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.575**		**0.00723**
Barium	**7440-39-3**	**3.62**		**0.826**
Cadmium	7440-43-9	0.0321	U	0.0572
Chromium	**7440-47-3**	**1.88**		**1.71**
Cobalt	**7440-48-4**	**0.308**		**0.0337**
Copper	**7440-50-8**	**50.5**		**2.03**
Lead	**7439-92-1**	**1.12**		**0.165**
Manganese	**7439-96-5**	**10.4**		**1.46**
Molybdenum	**7439-98-7**	**1.95**		**0.277**
Nickel	**7440-02-0**	**1.39**		**0.503**
Selenium	**7782-49-2**	**0.329**		**0.00692**
Thallium	**7440-28-0**	**0.00574**		**4.55E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0408**
Zinc	7440-66-6	30.5	GC-BS, QB-01, U	59.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060724-HM
Matrix: Air
Lab ID: 4061725-07RE1
Sample Volume: 2107.443 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 16:15
Comments: Q8508533 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0118		0.00247

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060724-HM
Matrix: Air
Lab ID: 4061725-08
Sample Volume: 1975.041 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 02:28

Comments: Q8508534 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0937**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.430**		**0.00772**
Barium	**7440-39-3**	**5.11**		**0.881**
Cadmium	7440-43-9	0.0297	U	0.0610
Chromium	**7440-47-3**	**4.79**		**1.82**
Cobalt	**7440-48-4**	**1.12**		**0.0359**
Copper	**7440-50-8**	**80.0**		**2.17**
Lead	**7439-92-1**	**1.49**		**0.176**
Manganese	**7439-96-5**	**24.1**		**1.56**
Molybdenum	**7439-98-7**	**2.17**		**0.296**
Nickel	**7440-02-0**	**3.13**		**0.537**
Selenium	**7782-49-2**	**0.380**		**0.00738**
Thallium	**7440-28-0**	**0.00584**		**4.85E-4**
Vanadium	**7440-62-2**	**2.45**		**0.0436**
Zinc	7440-66-6	38.4	GC-BS, QB-01, U	63.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060724-HM
Matrix: Air
Lab ID: 4061725-08RE1
Sample Volume: 1975.041 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 16:27
Comments: Q8508534 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0491		0.00264

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060724-HM
Matrix: Air
Lab ID: 4061725-09
Sample Volume: 1721.545 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 02:45

Comments: Q8508535 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.509**		**0.00886**
Barium	**7440-39-3**	**4.96**		**1.01**
Cadmium	7440-43-9	0.0374	U	0.0700
Chromium	**7440-47-3**	**3.25**		**2.09**
Cobalt	**7440-48-4**	**0.617**		**0.0412**
Copper	**7440-50-8**	**43.2**		**2.49**
Lead	**7439-92-1**	**1.05**		**0.202**
Manganese	**7439-96-5**	**21.4**		**1.79**
Molybdenum	**7439-98-7**	**1.84**		**0.339**
Nickel	**7440-02-0**	**1.86**		**0.616**
Selenium	**7782-49-2**	**0.353**		**0.00847**
Thallium	**7440-28-0**	**0.00596**		**5.57E-4**
Vanadium	**7440-62-2**	**2.24**		**0.0500**
Zinc	7440-66-6	32.6	GC-BS, QB-01, U	72.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060724-HM
Matrix: Air
Lab ID: 4061725-09RE1
Sample Volume: 1721.545 m³
Filter ID:
Sampled: 06/07/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 16:38

Comments: Q8508535 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0217		0.00302

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060824-HM
Matrix: Air
Lab ID: 4061725-10
Sample Volume: 1969.616 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 03:00

Comments: Q8508536 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.131**	SL	**0.0319**
Arsenic	**7440-38-2**	**1.62**		**0.00774**
Barium	**7440-39-3**	**8.40**		**0.884**
Cadmium	7440-43-9	0.0395	U	0.0612
Chromium	**7440-47-3**	**5.47**		**1.83**
Cobalt	**7440-48-4**	**1.13**		**0.0360**
Copper	**7440-50-8**	**80.3**		**2.17**
Lead	**7439-92-1**	**1.10**		**0.177**
Manganese	**7439-96-5**	**27.1**		**1.56**
Molybdenum	**7439-98-7**	**3.19**		**0.297**
Nickel	**7440-02-0**	**3.28**		**0.539**
Selenium	**7782-49-2**	**0.330**		**0.00740**
Thallium	**7440-28-0**	**0.00563**		**4.87E-4**
Vanadium	**7440-62-2**	**3.54**		**0.0437**
Zinc	7440-66-6	34.1	GC-BS, QB-01, U	63.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060824-HM
Matrix: Air
Lab ID: 4061725-10RE1
Sample Volume: 1969.616 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 17:18

Comments: Q8508536 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0247		0.00264

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060824-HM
Matrix: Air
Lab ID: 4061725-11
Sample Volume: 1951.734 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 04:32

Comments: Q8508538 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.388**		**0.00781**
Barium	**7440-39-3**	**3.65**		**0.892**
Cadmium	7440-43-9	0.0289	U	0.0618
Chromium	**7440-47-3**	**2.13**		**1.84**
Cobalt	**7440-48-4**	**0.281**		**0.0363**
Copper	**7440-50-8**	**42.1**		**2.19**
Lead	**7439-92-1**	**0.942**		**0.178**
Manganese	**7439-96-5**	**9.75**		**1.58**
Molybdenum	**7439-98-7**	**2.72**		**0.299**
Nickel	**7440-02-0**	**1.22**		**0.544**
Selenium	**7782-49-2**	**0.275**		**0.00747**
Thallium	**7440-28-0**	**0.00554**		**4.91E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0441**
Zinc	7440-66-6	27.7	GC-BS, QB-01, U	64.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060824-HM
Matrix: Air
Lab ID: 4061725-11RE1
Sample Volume: 1951.734 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 17:29

Comments: Q8508538 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0109		0.00267

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060824-HM
Matrix: Air
Lab ID: 4061725-12
Sample Volume: 1905.951 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 05:06

Comments: Q8508540 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0920**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.264**		**0.00800**
Barium	**7440-39-3**	**3.03**		**0.913**
Cadmium	7440-43-9	0.0252	U	0.0633
Chromium	**7440-47-3**	**2.42**		**1.89**
Cobalt	**7440-48-4**	**0.396**		**0.0372**
Copper	**7440-50-8**	**38.8**		**2.25**
Lead	**7439-92-1**	**0.547**		**0.183**
Manganese	**7439-96-5**	**10.9**		**1.61**
Molybdenum	**7439-98-7**	**2.24**		**0.306**
Nickel	**7440-02-0**	**1.46**		**0.557**
Selenium	**7782-49-2**	**0.285**		**0.00765**
Thallium	**7440-28-0**	**0.00573**		**5.03E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0452**
Zinc	7440-66-6	24.9	GC-BS, QB-01, U	65.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060824-HM
Matrix: Air
Lab ID: 4061725-12RE1
Sample Volume: 1905.951 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 18:03

Comments: Q8508540 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0234		0.00273

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060824-HM **Lab ID:** 4061725-13 **Sampled:** 06/08/24 23:59
Matrix: Air **Sample Volume:** 1627.548 m³ **Received:** 06/17/24 15:34
Filter ID: **Analysis Date:** 06/19/24 05:22

Comments: Q8508542 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0386**
Arsenic	**7440-38-2**	**0.509**		**0.00937**
Barium	**7440-39-3**	**4.33**		**1.07**
Cadmium	7440-43-9	0.0437	U	0.0741
Chromium	**7440-47-3**	**3.08**		**2.21**
Cobalt	**7440-48-4**	**0.505**		**0.0436**
Copper	**7440-50-8**	**22.9**		**2.63**
Lead	**7439-92-1**	**0.912**		**0.214**
Manganese	**7439-96-5**	**17.8**		**1.89**
Molybdenum	**7439-98-7**	**1.21**		**0.359**
Nickel	**7440-02-0**	**1.77**		**0.652**
Selenium	**7782-49-2**	**0.294**		**0.00896**
Thallium	**7440-28-0**	**0.00550**		**5.89E-4**
Vanadium	**7440-62-2**	**1.83**		**0.0529**
Zinc	7440-66-6	27.5	GC-BS, QB-01, U	76.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060824-HM
Matrix: Air
Lab ID: 4061725-13RE1
Sample Volume: 1627.548 m³
Filter ID:
Sampled: 06/08/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 18:14

Comments: Q8508542 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0174		0.00320

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060824-HM
Matrix: Air
Lab ID: 4061725-14
Sample Volume: 1969.616 m³
Filter ID:
Sampled: 06/08/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/19/24 05:37

Comments: Q8508546 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	SL, U	0.0319
Arsenic	**7440-38-2**	**0.00780**	FB-01	**0.00774**
Barium	7440-39-3	0.623	U	0.884
Cadmium	7440-43-9	8.29E-4	U	0.0612
Chromium	7440-47-3	0.907	U	1.83
Cobalt	7440-48-4	0.0105	U	0.0360
Copper	7440-50-8	0.410	U	2.17
Lead	7439-92-1	0.0253	U	0.177
Manganese	7439-96-5	0.181	U	1.56
Molybdenum	7439-98-7	0.139	U	0.297
Nickel	7440-02-0	0.410	U	0.539
Selenium	7782-49-2	0.00320	U	0.00740
Thallium	7440-28-0	1.19E-4	U	4.87E-4
Vanadium	7440-62-2	0.0312	U	0.0437
Zinc	7440-66-6	15.5	GC-BS, QB-01, U	63.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060824-HM
Matrix: Air
Lab ID: 4061725-14RE1
Sample Volume: 1969.616 m³
Filter ID:
Sampled: 06/08/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/20/24 18:25

Comments: Q8508546 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	3.25E-4	U	0.00264

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060924-HM
Matrix: Air
Lab ID: 4061725-15
Sample Volume: 1993.748 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 05:52

Comments: Q8508549 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.247**	SL	**0.0315**
Arsenic	**7440-38-2**	**4.15**		**0.00765**
Barium	**7440-39-3**	**9.79**		**0.873**
Cadmium	7440-43-9	0.0518	U	0.0605
Chromium	**7440-47-3**	**5.19**		**1.80**
Cobalt	**7440-48-4**	**0.881**		**0.0356**
Copper	**7440-50-8**	**66.1**		**2.15**
Lead	**7439-92-1**	**1.26**		**0.175**
Manganese	**7439-96-5**	**24.9**		**1.54**
Molybdenum	**7439-98-7**	**2.98**		**0.293**
Nickel	**7440-02-0**	**2.69**		**0.532**
Selenium	**7782-49-2**	**0.261**		**0.00731**
Thallium	**7440-28-0**	**0.00508**		**4.81E-4**
Vanadium	**7440-62-2**	**2.79**		**0.0432**
Zinc	7440-66-6	38.3	GC-BS, QB-01, U	62.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060924-HM
Matrix: Air
Lab ID: 4061725-15RE1
Sample Volume: 1993.748 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 18:36

Comments: Q8508549 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0212		0.00261

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060924-HM
Matrix: Air
Lab ID: 4061725-16
Sample Volume: 2014.257 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 06:09

Comments: Q8508543 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.589**		**0.00757**
Barium	**7440-39-3**	**5.71**		**0.864**
Cadmium	7440-43-9	0.0453	U	0.0599
Chromium	**7440-47-3**	**2.66**		**1.79**
Cobalt	**7440-48-4**	**0.498**		**0.0352**
Copper	**7440-50-8**	**55.7**		**2.12**
Lead	**7439-92-1**	**1.56**		**0.173**
Manganese	**7439-96-5**	**17.1**		**1.53**
Molybdenum	**7439-98-7**	**3.23**		**0.290**
Nickel	**7440-02-0**	**1.81**		**0.527**
Selenium	**7782-49-2**	**0.270**		**0.00724**
Thallium	**7440-28-0**	**0.00510**		**4.76E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0427**
Zinc	7440-66-6	31.0	GC-BS, QB-01, U	62.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060924-HM
Matrix: Air
Lab ID: 4061725-16RE1
Sample Volume: 2014.257 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 18:49

Comments: Q8508543 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0189		0.00258

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060924-HM
Matrix: Air
Lab ID: 4061725-17
Sample Volume: 1974.41 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 06:25

Comments: Q8508545 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0831**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.280**		**0.00772**
Barium	**7440-39-3**	**3.70**		**0.882**
Cadmium	7440-43-9	0.0312	U	0.0611
Chromium	**7440-47-3**	**2.84**		**1.82**
Cobalt	**7440-48-4**	**0.449**		**0.0359**
Copper	**7440-50-8**	**60.4**		**2.17**
Lead	**7439-92-1**	**1.26**		**0.176**
Manganese	**7439-96-5**	**11.8**		**1.56**
Molybdenum	**7439-98-7**	**2.68**		**0.296**
Nickel	**7440-02-0**	**1.65**		**0.537**
Selenium	**7782-49-2**	**0.229**		**0.00738**
Thallium	**7440-28-0**	**0.00448**		**4.85E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0436**
Zinc	7440-66-6	32.1	GC-BS, QB-01, U	63.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060924-HM
Matrix: Air
Lab ID: 4061725-17RE1
Sample Volume: 1974.41 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 19:02

Comments: Q8508545 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0215		0.00264

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060924-HM
Matrix: Air
Lab ID: 4061725-18
Sample Volume: 1702.574 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 06:41

Comments: Q8508880 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.554**		**0.00895**
Barium	**7440-39-3**	**5.07**		**1.02**
Cadmium	7440-43-9	0.0529	U	0.0708
Chromium	**7440-47-3**	**3.49**		**2.11**
Cobalt	**7440-48-4**	**0.617**		**0.0417**
Copper	**7440-50-8**	**23.1**		**2.51**
Lead	**7439-92-1**	**1.49**		**0.205**
Manganese	**7439-96-5**	**21.9**		**1.81**
Molybdenum	**7439-98-7**	**1.31**		**0.343**
Nickel	**7440-02-0**	**2.02**		**0.623**
Selenium	**7782-49-2**	**0.252**		**0.00856**
Thallium	**7440-28-0**	**0.00476**		**5.63E-4**
Vanadium	**7440-62-2**	**1.93**		**0.0506**
Zinc	7440-66-6	32.2	GC-BS, QB-01, U	73.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060924-HM
Matrix: Air
Lab ID: 4061725-18RE1
Sample Volume: 1702.574 m³
Filter ID:
Sampled: 06/09/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 19:40
Comments: Q8508880 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0191		0.00306

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-060924-HM
Matrix: Air
Lab ID: 4061725-19
Sample Volume: 1993.748 m³
Filter ID:
Sampled: 06/09/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/19/24 06:57

Comments: Q8508881 - Lot Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0204	SL, U	0.0315
Arsenic	**7440-38-2**	**0.00950**		**0.00765**
Barium	7440-39-3	0.820	U	0.873
Cadmium	7440-43-9	0.00135	U	0.0605
Chromium	7440-47-3	0.921	U	1.80
Cobalt	7440-48-4	0.0173	U	0.0356
Copper	7440-50-8	0.712	U	2.15
Lead	7439-92-1	0.0476	U	0.175
Manganese	7439-96-5	0.228	U	1.54
Molybdenum	7439-98-7	0.151	U	0.293
Nickel	7440-02-0	0.392	U	0.532
Selenium	7782-49-2	0.00333	U	0.00731
Thallium	7440-28-0	1.20E-4	U	4.81E-4
Vanadium	7440-62-2	0.0357	U	0.0432
Zinc	7440-66-6	15.1	GC-BS, QB-01, U	62.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-060924-HM
Matrix: Air
Lab ID: 4061725-19RE1
Sample Volume: 1993.748 m³
Filter ID:
Sampled: 06/09/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/20/24 19:51

Comments: Q8508881 - Lot Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	3.53E-4	U	0.00261

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061024-HM
Matrix: Air
Lab ID: 4061725-20
Sample Volume: 1987.091 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 08:24

Comments: Q8508879 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.233**	SL	**0.0316**
Arsenic	**7440-38-2**	**5.10**		**0.00767**
Barium	**7440-39-3**	**9.47**		**0.876**
Cadmium	7440-43-9	0.0489	U	0.0607
Chromium	**7440-47-3**	**5.86**		**1.81**
Cobalt	**7440-48-4**	**1.06**		**0.0357**
Copper	**7440-50-8**	**70.5**		**2.15**
Lead	**7439-92-1**	**0.882**		**0.175**
Manganese	**7439-96-5**	**28.3**		**1.55**
Molybdenum	**7439-98-7**	**3.25**		**0.294**
Nickel	**7440-02-0**	**2.90**		**0.534**
Selenium	**7782-49-2**	**0.295**		**0.00734**
Thallium	**7440-28-0**	**0.00547**		**4.82E-4**
Vanadium	**7440-62-2**	**3.27**		**0.0433**
Zinc	7440-66-6	31.0	GC-BS, QB-01, U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061024-HM
Matrix: Air
Lab ID: 4061725-20RE1
Sample Volume: 1987.091 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 20:02

Comments: Q8508879 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0236		0.00262

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061024-HM
Matrix: Air
Lab ID: 4061725-21
Sample Volume: 2016.792 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 08:43

Comments: Q8508877 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.131**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.642**		**0.00756**
Barium	**7440-39-3**	**4.66**		**0.863**
Cadmium	7440-43-9	0.0251	U	0.0598
Chromium	**7440-47-3**	**2.55**		**1.78**
Cobalt	**7440-48-4**	**0.501**		**0.0352**
Copper	**7440-50-8**	**45.6**		**2.12**
Lead	**7439-92-1**	**1.69**		**0.173**
Manganese	**7439-96-5**	**15.0**		**1.52**
Molybdenum	**7439-98-7**	**2.57**		**0.290**
Nickel	**7440-02-0**	**1.76**		**0.526**
Selenium	**7782-49-2**	**0.268**		**0.00723**
Thallium	**7440-28-0**	**0.00500**		**4.75E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0427**
Zinc	7440-66-6	27.6	GC-BS, QB-01, U	62.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061024-HM
Matrix: Air
Lab ID: 4061725-21RE1
Sample Volume: 2016.792 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 20:14

Comments: Q8508877 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0155		0.00258

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061024-HM
Matrix: Air
Lab ID: 4061725-22
Sample Volume: 1971.924 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/18/24 18:03

Comments: Q8508876 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0823**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.416**		**0.00773**
Barium	**7440-39-3**	**4.48**		**0.883**
Beryllium	**7440-41-7**	**0.0411**		**0.00264**
Cadmium	7440-43-9	0.0206	U	0.0611
Chromium	**7440-47-3**	**2.91**		**1.82**
Cobalt	**7440-48-4**	**0.550**		**0.0360**
Copper	**7440-50-8**	**43.7**		**2.17**
Lead	**7439-92-1**	**0.566**		**0.177**
Manganese	**7439-96-5**	**14.6**		**1.56**
Molybdenum	**7439-98-7**	**3.20**		**0.296**
Nickel	**7440-02-0**	**1.51**		**0.538**
Selenium	**7782-49-2**	**0.273**	SRD-01	**0.00739**
Thallium	**7440-28-0**	**0.00515**		**4.86E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0436**
Zinc	7440-66-6	22.4	GC-BS, QB-01, U	63.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061024-HM
Matrix: Air
Lab ID: 4061725-23
Sample Volume: 1704.725 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 08:59

Comments: Q8508875 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0368**
Arsenic	**7440-38-2**	**0.731**		**0.00894**
Barium	**7440-39-3**	**6.84**		**1.02**
Cadmium	7440-43-9	0.0291	U	0.0707
Chromium	**7440-47-3**	**4.13**		**2.11**
Cobalt	**7440-48-4**	**0.800**		**0.0416**
Copper	**7440-50-8**	**26.3**		**2.51**
Lead	**7439-92-1**	**2.24**		**0.204**
Manganese	**7439-96-5**	**29.0**		**1.80**
Molybdenum	**7439-98-7**	**1.19**		**0.343**
Nickel	**7440-02-0**	**2.30**		**0.622**
Selenium	**7782-49-2**	**0.318**		**0.00855**
Thallium	**7440-28-0**	**0.00562**		**5.62E-4**
Vanadium	**7440-62-2**	**2.49**		**0.0505**
Zinc	7440-66-6	36.5	GC-BS, QB-01, U	73.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061024-HM
Matrix: Air
Lab ID: 4061725-23RE1
Sample Volume: 1704.725 m³
Filter ID:
Sampled: 06/10/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 20:25

Comments: Q8508875 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0308		0.00305

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061024-HM
Matrix: Air
Lab ID: 4061725-24
Sample Volume: 1987.091 m³
Filter ID:
Sampled: 06/10/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/19/24 09:15

Comments: Q8508870 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0182	SL, U	0.0316
Arsenic	7440-38-2	0.00561	U	0.00767
Barium	7440-39-3	0.742	U	0.876
Cadmium	7440-43-9	6.48E-4	U	0.0607
Chromium	7440-47-3	0.968	U	1.81
Cobalt	7440-48-4	0.0108	U	0.0357
Copper	7440-50-8	1.21	U	2.15
Lead	7439-92-1	0.0397	U	0.175
Manganese	7439-96-5	0.147	U	1.55
Molybdenum	7439-98-7	0.190	U	0.294
Nickel	7440-02-0	0.418	U	0.534
Selenium	7782-49-2	0.00256	U	0.00734
Thallium	7440-28-0	1.36E-4	U	4.82E-4
Vanadium	7440-62-2	0.0280	U	0.0433
Zinc	7440-66-6	12.6	GC-BS, QB-01, U	62.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061024-HM
Matrix: Air
Lab ID: 4061725-24RE1
Sample Volume: 1987.091 m³
Filter ID:
Sampled: 06/10/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/20/24 20:37

Comments: Q8508870 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	2.52E-4	U	0.00262

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061124-HM
Matrix: Air
Lab ID: 4061725-25
Sample Volume: 1935.87 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 09:30

Comments: Q8508874 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.300**	SL	**0.0324**
Arsenic	**7440-38-2**	**9.17**		**0.00788**
Barium	**7440-39-3**	**21.9**		**0.899**
Cadmium	**7440-43-9**	**0.168**		**0.0623**
Chromium	**7440-47-3**	**14.4**		**1.86**
Cobalt	**7440-48-4**	**3.13**		**0.0366**
Copper	**7440-50-8**	**67.5**		**2.21**
Lead	**7439-92-1**	**1.26**		**0.180**
Manganese	**7439-96-5**	**75.5**		**1.59**
Molybdenum	**7439-98-7**	**2.89**		**0.302**
Nickel	**7440-02-0**	**8.21**		**0.548**
Selenium	**7782-49-2**	**0.505**		**0.00753**
Thallium	**7440-28-0**	**0.00741**		**4.95E-4**
Vanadium	**7440-62-2**	**8.95**		**0.0445**
Zinc	7440-66-6	40.3	GC-BS, QB-01, U	64.5

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061124-HM
Matrix: Air
Lab ID: 4061725-25RE1
Sample Volume: 1935.87 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 20:48

Comments: Q8508874 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0673		0.00269

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061124-HM
Matrix: Air
Lab ID: 4061725-26
Sample Volume: 2016.792 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 09:50

Comments: Q8508872 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.597**		**0.00756**
Barium	**7440-39-3**	**4.85**		**0.863**
Cadmium	7440-43-9	0.0283	U	0.0598
Chromium	**7440-47-3**	**2.36**		**1.78**
Cobalt	**7440-48-4**	**0.397**		**0.0352**
Copper	**7440-50-8**	**46.2**		**2.12**
Lead	**7439-92-1**	**1.32**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.52**
Molybdenum	**7439-98-7**	**2.68**		**0.290**
Nickel	**7440-02-0**	**1.39**		**0.526**
Selenium	**7782-49-2**	**0.293**		**0.00723**
Thallium	**7440-28-0**	**0.00583**		**4.75E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0427**
Zinc	7440-66-6	26.7	GC-BS, QB-01, U	62.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061124-HM
Matrix: Air
Lab ID: 4061725-26RE1
Sample Volume: 2016.792 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 21:00

Comments: Q8508872 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0145		0.00258

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061124-HM
Matrix: Air
Lab ID: 4061725-27
Sample Volume: 1888.344 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 10:06

Comments: Q8508868 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0815**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.411**		**0.00807**
Barium	**7440-39-3**	**4.55**		**0.922**
Cadmium	7440-43-9	0.0246	U	0.0638
Chromium	**7440-47-3**	**3.05**		**1.90**
Cobalt	**7440-48-4**	**0.592**		**0.0376**
Copper	**7440-50-8**	**46.9**		**2.27**
Lead	**7439-92-1**	**0.601**		**0.184**
Manganese	**7439-96-5**	**16.3**		**1.63**
Molybdenum	**7439-98-7**	**3.71**		**0.309**
Nickel	**7440-02-0**	**1.72**		**0.562**
Selenium	**7782-49-2**	**0.293**		**0.00772**
Thallium	**7440-28-0**	**0.00559**		**5.07E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0456**
Zinc	7440-66-6	23.5	GC-BS, QB-01, U	66.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061124-HM
Matrix: Air
Lab ID: 4061725-27RE1
Sample Volume: 1888.344 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 21:12

Comments: Q8508868 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0419		0.00276

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061124-HM
Matrix: Air
Lab ID: 4061725-28
Sample Volume: 1735.411 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 10:22

Comments: Q8508867 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0362**
Arsenic	**7440-38-2**	**0.490**		**0.00878**
Barium	**7440-39-3**	**4.36**		**1.00**
Cadmium	7440-43-9	0.0279	U	0.0695
Chromium	**7440-47-3**	**2.98**		**2.07**
Cobalt	**7440-48-4**	**0.457**		**0.0409**
Copper	**7440-50-8**	**16.8**		**2.47**
Lead	**7439-92-1**	**0.841**		**0.201**
Manganese	**7439-96-5**	**16.2**		**1.77**
Molybdenum	**7439-98-7**	**1.21**		**0.337**
Nickel	**7440-02-0**	**1.50**		**0.611**
Selenium	**7782-49-2**	**0.258**		**0.00840**
Thallium	**7440-28-0**	**0.00524**		**5.52E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0496**
Zinc	7440-66-6	19.4	GC-BS, QB-01, U	72.0

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061124-HM
Matrix: Air
Lab ID: 4061725-28RE1
Sample Volume: 1735.411 m³
Filter ID:
Sampled: 06/11/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 21:23

Comments: Q8508867 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0148		0.00300

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061224-HM
Matrix: Air
Lab ID: 4061725-29
Sample Volume: 1984.068 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 10:37

Comments: Q8508866 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.227**	SL	**0.0317**
Arsenic	**7440-38-2**	**3.42**		**0.00768**
Barium	**7440-39-3**	**9.14**		**0.877**
Cadmium	7440-43-9	0.0316	U	0.0608
Chromium	**7440-47-3**	**5.75**		**1.81**
Cobalt	**7440-48-4**	**1.06**		**0.0358**
Copper	**7440-50-8**	**71.0**		**2.16**
Lead	**7439-92-1**	**0.884**		**0.175**
Manganese	**7439-96-5**	**29.5**		**1.55**
Molybdenum	**7439-98-7**	**4.18**		**0.294**
Nickel	**7440-02-0**	**3.11**		**0.535**
Selenium	**7782-49-2**	**0.247**		**0.00735**
Thallium	**7440-28-0**	**0.00263**		**4.83E-4**
Vanadium	**7440-62-2**	**3.47**		**0.0434**
Zinc	7440-66-6	23.4	GC-BS, QB-01, U	63.0

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061224-HM
Matrix: Air
Lab ID: 4061725-29RE1
Sample Volume: 1984.068 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 22:01

Comments: Q8508866 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0341		0.00262

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061224-HM
Matrix: Air
Lab ID: 4061725-30
Sample Volume: 2053.086 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 10:52

Comments: Q8508864 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.536**		**0.00743**
Barium	**7440-39-3**	**3.89**		**0.848**
Cadmium	7440-43-9	0.0159	U	0.0587
Chromium	**7440-47-3**	**2.08**		**1.75**
Cobalt	**7440-48-4**	**0.323**		**0.0346**
Copper	**7440-50-8**	**48.2**		**2.08**
Lead	**7439-92-1**	**0.978**		**0.170**
Manganese	**7439-96-5**	**10.6**		**1.50**
Molybdenum	**7439-98-7**	**2.41**		**0.284**
Nickel	**7440-02-0**	**1.22**		**0.517**
Selenium	**7782-49-2**	**0.166**		**0.00710**
Thallium	**7440-28-0**	**0.00239**		**4.67E-4**
Vanadium	**7440-62-2**	**1.21**		**0.0419**
Zinc	7440-66-6	21.1	GC-BS, QB-01, U	60.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061224-HM
Matrix: Air
Lab ID: 4061725-30RE1
Sample Volume: 2053.086 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 22:13

Comments: Q8508864 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0113		0.00254

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061224-HM
Matrix: Air
Lab ID: 4061725-31
Sample Volume: 1957.243 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 12:22

Comments: Q8508863 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0672**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.379**		**0.00779**
Barium	**7440-39-3**	**3.73**		**0.889**
Cadmium	7440-43-9	0.0124	U	0.0616
Chromium	**7440-47-3**	**3.04**		**1.84**
Cobalt	**7440-48-4**	**0.549**		**0.0362**
Copper	**7440-50-8**	**47.2**		**2.19**
Lead	**7439-92-1**	**0.640**		**0.178**
Manganese	**7439-96-5**	**14.7**		**1.57**
Molybdenum	**7439-98-7**	**2.98**		**0.298**
Nickel	**7440-02-0**	**1.68**		**0.542**
Selenium	**7782-49-2**	**0.166**		**0.00745**
Thallium	**7440-28-0**	**0.00187**	QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0440**
Zinc	7440-66-6	16.8	GC-BS, QB-01, U	63.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061224-HM
Matrix: Air
Lab ID: 4061725-31RE1
Sample Volume: 1957.243 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 22:25

Comments: Q8508863 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0276		0.00266

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061224-HM
Matrix: Air
Lab ID: 4061725-32
Sample Volume: 1688.404 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/19/24 12:40

Comments: Q8508862 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0372**
Arsenic	**7440-38-2**	**1.24**		**0.00903**
Barium	**7440-39-3**	**8.54**		**1.03**
Cadmium	7440-43-9	0.0391	U	0.0714
Chromium	**7440-47-3**	**6.39**		**2.13**
Cobalt	**7440-48-4**	**1.20**		**0.0420**
Copper	**7440-50-8**	**29.4**		**2.53**
Lead	**7439-92-1**	**1.81**		**0.206**
Manganese	**7439-96-5**	**44.2**		**1.82**
Molybdenum	**7439-98-7**	**1.55**		**0.346**
Nickel	**7440-02-0**	**3.48**		**0.628**
Selenium	**7782-49-2**	**0.297**		**0.00863**
Thallium	**7440-28-0**	**0.00269**	QB-04	**5.68E-4**
Vanadium	**7440-62-2**	**3.56**		**0.0510**
Zinc	7440-66-6	29.2	GC-BS, QB-01, U	74.0

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061224-HM
Matrix: Air
Lab ID: 4061725-32RE1
Sample Volume: 1688.404 m³
Filter ID:
Sampled: 06/12/24 23:59
Received: 06/17/24 15:34
Analysis Date: 06/20/24 22:36

Comments: Q8508862 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0379		0.00308

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061224-HM
Matrix: Air
Lab ID: 4061725-33
Sample Volume: 1984.068 m³
Filter ID:
Sampled: 06/12/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/19/24 13:15

Comments: Q8508857 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0247	SL, U	0.0317
Arsenic	**7440-38-2**	**0.00947**	FB-01	**0.00768**
Barium	7440-39-3	0.728	U	0.877
Cadmium	7440-43-9	0.00105	U	0.0608
Chromium	7440-47-3	1.05	U	1.81
Cobalt	7440-48-4	0.0159	U	0.0358
Copper	7440-50-8	0.694	U	2.16
Lead	7439-92-1	0.0391	U	0.175
Manganese	7439-96-5	0.304	U	1.55
Molybdenum	7439-98-7	0.129	U	0.294
Nickel	7440-02-0	0.445	U	0.535
Selenium	7782-49-2	0.00474	U	0.00735
Thallium	7440-28-0	1.22E-4	QB-04, U	4.83E-4
Vanadium	7440-62-2	0.0369	U	0.0434
Zinc	7440-66-6	7.17	GC-BS, QB-01, U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061224-HM
Matrix: Air
Lab ID: 4061725-33RE1
Sample Volume: 1984.068 m³
Filter ID:
Sampled: 06/12/24 00:00
Received: 06/17/24 15:34
Analysis Date: 06/20/24 23:01

Comments: Q8508857 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	1.88E-4	U	0.00262

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Blank (2406066-CCB1)				Prepared & Analyzed: 06/18/24						
Antimony	0.105		ng/l							
Arsenic	1.01		ng/l							
Barium	0.205		ng/l							
Beryllium	0.0603		ng/l							
Cadmium	0.105		ng/l							
Chromium	3.03		ng/l							
Cobalt	0.307		ng/l							
Copper	321		ng/l							
Lead	3.63		ng/l							
Manganese	7.03		ng/l							
Molybdenum	22.2		ng/l							
Nickel	0.738		ng/l							
Selenium	7.57		ng/l							
Thallium	1.08		ng/l							
Vanadium	80.7		ng/l							
Zinc	-118		ng/l							U
Calibration Blank (2406066-CCB2)				Prepared & Analyzed: 06/18/24						
Antimony	-0.766		ng/l							U
Arsenic	5.64		ng/l							
Barium	-0.388		ng/l							U
Beryllium	-0.303		ng/l							U
Cadmium	0.134		ng/l							
Chromium	3.45		ng/l							
Cobalt	0.283		ng/l							
Copper	184		ng/l							
Lead	2.26		ng/l							
Manganese	5.17		ng/l							
Molybdenum	3.66		ng/l							
Nickel	1.65		ng/l							
Selenium	5.48		ng/l							
Thallium	0.916		ng/l							
Vanadium	89.9		ng/l							
Zinc	-154		ng/l							U
Calibration Blank (2406066-CCB3)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	-0.640		ng/l							U
Arsenic	4.43		ng/l							
Barium	-0.787		ng/l							U
Beryllium	-0.316		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Blank (2406066-CCB3) Contin				Prepared: 06/18/24 Analyzed: 06/19/24						
Cadmium	0.139		ng/l							
Chromium	3.36		ng/l							
Cobalt	0.336		ng/l							
Copper	92.9		ng/l							
Lead	1.68		ng/l							
Manganese	4.49		ng/l							
Molybdenum	4.23		ng/l							
Nickel	0.977		ng/l							
Selenium	5.36		ng/l							
Thallium	1.03		ng/l							
Vanadium	93.9		ng/l							
Zinc	-106		ng/l							U
Calibration Blank (2406066-CCB4)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	-0.682		ng/l							U
Arsenic	5.58		ng/l							
Barium	-1.00		ng/l							U
Beryllium	-0.797		ng/l							U
Cadmium	0.0938		ng/l							
Chromium	2.09		ng/l							
Cobalt	0.149		ng/l							
Copper	100		ng/l							
Lead	1.21		ng/l							
Manganese	4.66		ng/l							
Molybdenum	6.65		ng/l							
Nickel	1.20		ng/l							
Selenium	-2.82		ng/l							U
Thallium	1.17		ng/l							
Vanadium	85.2		ng/l							
Zinc	-180		ng/l							U
Calibration Blank (2406066-CCB5)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	-0.0437		ng/l							U
Arsenic	9.01		ng/l							
Barium	0.506		ng/l							
Beryllium	-0.629		ng/l							U
Cadmium	0.242		ng/l							
Chromium	4.49		ng/l							
Cobalt	0.449		ng/l							
Copper	93.2		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Blank (2406066-CCB5) Contin				Prepared: 06/18/24 Analyzed: 06/19/24						
Lead	2.30		ng/l							
Manganese	8.16		ng/l							
Molybdenum	7.00		ng/l							
Nickel	2.39		ng/l							
Selenium	9.22		ng/l							
Thallium	1.13		ng/l							
Vanadium	69.2		ng/l							
Zinc	-172		ng/l							U
Calibration Blank (2406066-CCB6)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	-0.246		ng/l							U
Arsenic	6.95		ng/l							
Barium	1.00		ng/l							
Beryllium	-0.791		ng/l							U
Cadmium	0.160		ng/l							
Chromium	3.79		ng/l							
Cobalt	0.386		ng/l							
Copper	88.0		ng/l							
Lead	2.36		ng/l							
Manganese	8.47		ng/l							
Molybdenum	7.81		ng/l							
Nickel	2.46		ng/l							
Selenium	9.58		ng/l							
Thallium	1.11		ng/l							
Vanadium	65.8		ng/l							
Zinc	-186		ng/l							U
Calibration Blank (2406066-CCB7)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	-0.180		ng/l							U
Arsenic	5.94		ng/l							
Barium	0.760		ng/l							
Beryllium	-0.950		ng/l							U
Cadmium	0.152		ng/l							
Chromium	4.86		ng/l							
Cobalt	0.550		ng/l							
Copper	91.7		ng/l							
Lead	2.94		ng/l							
Manganese	10.1		ng/l							
Molybdenum	8.38		ng/l							
Nickel	1.17		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Blank (2406066-CCB7) Contin				Prepared: 06/18/24 Analyzed: 06/19/24						
Selenium	-2.76		ng/l							U
Thallium	1.47		ng/l							QB-04
Vanadium	51.6		ng/l							
Zinc	-168		ng/l							U
Calibration Check (2406066-CCV1)				Prepared & Analyzed: 06/18/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	5410		ng/l	5000.0		108	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	500000		ng/l	500000		99.9	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2406066-CCV2)				Prepared & Analyzed: 06/18/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5380		ng/l	5000.0		108	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	521000		ng/l	500000		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Check (2406066-CCV3)				Prepared & Analyzed: 06/18/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5380		ng/l	5000.0		108	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	48300		ng/l	50000		96.7	90-110			
Copper	1.96E6		ng/l	2.0000E6		98.1	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	49900		ng/l	50000		99.9	90-110			
Nickel	118000		ng/l	120000		98.4	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2406066-CCV4)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5480		ng/l	5000.0		110	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.4	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	492000		ng/l	500000		98.3	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	119000		ng/l	120000		99.1	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2406066-CCV5)				Prepared: 06/18/24 Analyzed: 06/19/24						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5450		ng/l	5000.0		109	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Check (2406066-CCV5) Contin					Prepared: 06/18/24 Analyzed: 06/19/24					
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48700		ng/l	50000		97.5	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.0	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		99.1	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2406066-CCV6)					Prepared: 06/18/24 Analyzed: 06/19/24					
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5510		ng/l	5000.0		110	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	49000		ng/l	50000		98.1	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	476		ng/l	500.00		95.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2406066-CCV7)					Prepared: 06/18/24 Analyzed: 06/19/24					
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5450		ng/l	5000.0		109	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.8	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Calibration Check (2406066-CCV7) Contin					Prepared: 06/18/24 Analyzed: 06/19/24					
Lead	203000		ng/l	200000		102	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	119000		ng/l	120000		98.8	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	474		ng/l	500.00		94.8	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2406066-HCV1)					Prepared & Analyzed: 06/18/24					
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	402000		ng/l	400000		101	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	482000		ng/l	480000		100	95-105			
Cobalt	98000		ng/l	100000		98.0	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.9	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	996000		ng/l	1.0000E6		99.6	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	235000		ng/l	240000		98.0	95-105			
Selenium	40100		ng/l	40000		100	95-105			
Thallium	981		ng/l	1000.0		98.1	95-105			
Vanadium	40100		ng/l	40000		100	95-105			
Zinc	988000		ng/l	1.0000E6		98.8	95-105			
Initial Cal Blank (2406066-ICB1)					Prepared & Analyzed: 06/18/24					
Antimony	0.101		ng/l							
Arsenic	0.266		ng/l							
Barium	0.405		ng/l							
Beryllium	-0.304		ng/l							U
Cadmium	0.200		ng/l							
Chromium	2.58		ng/l							
Cobalt	0.382		ng/l							
Copper	281		ng/l							
Lead	4.59		ng/l							
Manganese	7.98		ng/l							
Molybdenum	9.39		ng/l							
Nickel	-1.79		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Initial Cal Blank (2406066-ICB1) Continu				Prepared & Analyzed: 06/18/24						
Selenium	6.36		ng/l							
Thallium	0.975		ng/l							
Vanadium	93.1		ng/l							
Zinc	-23.9		ng/l							U
Initial Cal Check (2406066-ICV1)				Prepared & Analyzed: 06/18/24						
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Interference Check A (2406066-IFA1)				Prepared & Analyzed: 06/18/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	312000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Interference Check B (2406066-IFB1)				Prepared & Analyzed: 06/18/24						
Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	197000		ng/l	200000		98.6	80-120			
Beryllium	5020		ng/l	5000.0		100	80-120			
Cadmium	19600		ng/l	20000		98.2	80-120			
Chromium	235000		ng/l	240000		98.0	80-120			
Cobalt	48400		ng/l	50000		96.7	80-120			
Copper	1.88E6		ng/l	2.0000E6		93.8	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	503000		ng/l	500000		101	80-120			
Molybdenum	367000		ng/l	350000		105	80-120			
Nickel	114000		ng/l	120000		95.1	80-120			
Selenium	18700		ng/l	20000		93.3	80-120			
Thallium	524		ng/l	500.00		105	80-120			
Vanadium	19500		ng/l	20000		97.5	80-120			
Zinc	466000		ng/l	500000		93.3	80-120			
Batch 2406076 - B4F1808										
Calibration Blank (2406076-CCB1)				Prepared & Analyzed: 06/20/24						
Barium	3.66		ng/l							
Beryllium	-0.263		ng/l							U
Chromium	3.72		ng/l							
Molybdenum	61.3		ng/l							
Zinc	-41.5		ng/l							U
Calibration Blank (2406076-CCB2)				Prepared & Analyzed: 06/20/24						
Barium	6.85		ng/l							
Beryllium	-0.919		ng/l							U
Chromium	8.31		ng/l							
Molybdenum	23.4		ng/l							
Zinc	-43.3		ng/l							U
Calibration Blank (2406076-CCB3)				Prepared & Analyzed: 06/20/24						
Barium	2.91		ng/l							
Beryllium	-1.36		ng/l							U
Chromium	3.01		ng/l							
Molybdenum	22.8		ng/l							
Zinc	-66.7		ng/l							U
Calibration Blank (2406076-CCB4)				Prepared & Analyzed: 06/20/24						
Barium	2.62		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406076 - B4F1808										
Calibration Blank (2406076-CCB4) Contin					Prepared & Analyzed: 06/20/24					
Beryllium	-1.42		ng/l							U
Chromium	4.11		ng/l							
Molybdenum	28.3		ng/l							
Zinc	-62.9		ng/l							U
Calibration Blank (2406076-CCB5)					Prepared & Analyzed: 06/20/24					
Barium	5.50		ng/l							
Beryllium	-1.77		ng/l							U
Chromium	7.83		ng/l							
Molybdenum	29.0		ng/l							
Zinc	-25.9		ng/l							U
Calibration Check (2406076-CCV1)					Prepared & Analyzed: 06/20/24					
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2406076-CCV2)					Prepared & Analyzed: 06/20/24					
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Molybdenum	49600		ng/l	50000		99.3	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2406076-CCV3)					Prepared & Analyzed: 06/20/24					
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2406076-CCV4)					Prepared & Analyzed: 06/20/24					
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4920		ng/l	5000.0		98.4	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2406076-CCV5)					Prepared & Analyzed: 06/20/24					
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4900		ng/l	5000.0		97.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406076 - B4F1808										
Calibration Check (2406076-CCV5) Contin					Prepared & Analyzed: 06/20/24					
Chromium	243000		ng/l	240000		101	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Zinc	511000		ng/l	500000		102	90-110			
High Cal Check (2406076-HCV1)					Prepared & Analyzed: 06/20/24					
Barium	398000		ng/l	400000		99.5	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Chromium	474000		ng/l	480000		98.8	95-105			
Molybdenum	99700		ng/l	100000		99.7	95-105			
Zinc	996000		ng/l	1.0000E6		99.6	95-105			
Initial Cal Blank (2406076-ICB1)					Prepared & Analyzed: 06/20/24					
Barium	1.78		ng/l							
Beryllium	-0.147		ng/l							U
Chromium	4.44		ng/l							
Molybdenum	30.4		ng/l							
Zinc	-33.0		ng/l							U
Initial Cal Check (2406076-ICV1)					Prepared & Analyzed: 06/20/24					
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	5290		ng/l	5000.0		106	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Molybdenum	49900		ng/l	50000		99.7	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Interference Check A (2406076-IFA1)					Prepared & Analyzed: 06/20/24					
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Molybdenum	310000		ng/l	300000		103	80-120			
Zinc	0.00		ng/l				80-120			U
Interference Check B (2406076-IFB1)					Prepared & Analyzed: 06/20/24					
Barium	201000		ng/l	200000		100	80-120			
Beryllium	4890		ng/l	5000.0		97.7	80-120			
Chromium	231000		ng/l	240000		96.3	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Zinc	467000		ng/l	500000		93.4	80-120			
Batch B4F1808 - ICP-MS Extraction										
Blank (B4F1808-BLK1)					Prepared & Analyzed: 06/18/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Blank (B4F1808-BLK1) Continued					Prepared & Analyzed: 06/18/24					
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							GC-BS, QB-01 U
LCS (B4F1808-BS1)					Prepared & Analyzed: 06/18/24					
Antimony	0.752	0.0386	ng/m³ Air	1.3829		54.4	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	28.8	1.07	ng/m³ Air	27.658		104	80-120			
Beryllium	1.45	0.00320	ng/m³ Air	1.3829		105	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.5	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.9	80-120			
Copper	28.7	2.63	ng/m³ Air	27.658		104	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.39	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.19	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.80	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.2	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.7	80-120			
Zinc	143	76.8	ng/m³ Air	82.975		172	80-120			GC-BS, QB-01
LCS (B4F1808-BS2)					Prepared & Analyzed: 06/18/24					
Antimony	0.782	0.0386	ng/m³ Air	1.3829		56.5	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	29.5	1.07	ng/m³ Air	27.658		106	80-120			
Beryllium	1.43	0.00320	ng/m³ Air	1.3829		103	80-120			
Cadmium	1.31	0.0741	ng/m³ Air	1.3829		94.9	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
LCS (B4F1808-BS2) Continued				Prepared & Analyzed: 06/18/24						
Chromium	14.8	2.21	ng/m³ Air	13.829		107	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.6	80-120			
Copper	28.1	2.63	ng/m³ Air	27.658		102	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.3	80-120			
Manganese	8.46	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.48	0.359	ng/m³ Air	1.3829		107	80-120			
Nickel	3.09	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.3	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.1	80-120			
Zinc	147	76.8	ng/m³ Air	82.975		177	80-120			GC-BS, QB-01
Duplicate (B4F1808-DUP1)		**Source: 4061725-22**		Prepared & Analyzed: 06/18/24						
Antimony	0.0823	0.0318	ng/m³ Air		0.0823			0.00912	10	SL
Arsenic	0.391	0.00773	ng/m³ Air		0.416			6.01	10	
Barium	3.84	0.883	ng/m³ Air		4.48			15.4	10	
Beryllium	0.0419	0.00264	ng/m³ Air		0.0411			1.81	10	
Cadmium	0.131	0.0611	ng/m³ Air		ND				10	
Chromium	2.88	1.82	ng/m³ Air		2.91			0.995	10	
Cobalt	0.539	0.0360	ng/m³ Air		0.550			2.04	10	
Copper	48.8	2.17	ng/m³ Air		43.7			11.1	10	
Lead	0.735	0.177	ng/m³ Air		0.566			26.0	10	
Manganese	14.4	1.56	ng/m³ Air		14.6			1.16	10	
Molybdenum	3.22	0.296	ng/m³ Air		3.20			0.702	10	
Nickel	1.53	0.538	ng/m³ Air		1.51			1.30	10	
Selenium	0.284	0.00739	ng/m³ Air		0.273			4.00	10	
Thallium	0.00488	4.86E-4	ng/m³ Air		0.00515			5.36	10	
Vanadium	1.65	0.0436	ng/m³ Air		1.65			0.168	10	
Zinc	ND	63.4	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4F1808-DUP2)		**Source: 4061725-01**		Prepared & Analyzed: 06/18/24						
Antimony	0.189	0.0333	ng/m³ Air		0.189			0.251	10	SL
Arsenic	3.83	0.00808	ng/m³ Air		3.65			5.05	10	
Barium	12.4	0.922	ng/m³ Air		11.5			7.23	10	
Beryllium	0.0258	0.00276	ng/m³ Air		0.0267			3.69	10	
Cadmium	ND	0.0639	ng/m³ Air		ND				10	U
Chromium	4.52	1.90	ng/m³ Air		4.46			1.43	10	
Cobalt	0.742	0.0376	ng/m³ Air		0.720			3.10	10	
Copper	169	2.27	ng/m³ Air		160			5.44	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Duplicate (B4F1808-DUP2) Continued			**Source: 4061725-01**		Prepared & Analyzed: 06/18/24					
Lead	1.05	0.184	ng/m³ Air		1.01			4.00	10	
Manganese	23.5	1.63	ng/m³ Air		22.9			2.66	10	
Molybdenum	7.26	0.309	ng/m³ Air		7.05			2.89	10	
Nickel	2.22	0.562	ng/m³ Air		2.16			2.65	10	
Selenium	0.323	0.00772	ng/m³ Air		0.313			3.15	10	
Thallium	0.00527	5.08E-4	ng/m³ Air		0.00513			2.66	10	
Vanadium	2.83	0.0456	ng/m³ Air		2.78			1.64	10	
Zinc	ND	66.2	ng/m³ Air		66.2				10	GC-BS, QB-01 U
Duplicate (B4F1808-DUP3)			**Source: 4061725-11**		Prepared: 06/18/24 Analyzed: 06/19/24					
Antimony	0.133	0.0322	ng/m³ Air		0.133			0.186	10	SL
Arsenic	0.396	0.00781	ng/m³ Air		0.388			2.15	10	
Barium	3.65	0.892	ng/m³ Air		3.65			0.0706	10	
Beryllium	0.0117	0.00267	ng/m³ Air		0.0115			2.02	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	2.12	1.84	ng/m³ Air		2.13			0.621	10	
Cobalt	0.282	0.0363	ng/m³ Air		0.281			0.284	10	
Copper	42.3	2.19	ng/m³ Air		42.1			0.639	10	
Lead	0.940	0.178	ng/m³ Air		0.942			0.126	10	
Manganese	9.74	1.58	ng/m³ Air		9.75			0.0811	10	
Molybdenum	2.71	0.299	ng/m³ Air		2.72			0.364	10	
Nickel	1.22	0.544	ng/m³ Air		1.22			0.376	10	
Selenium	0.278	0.00747	ng/m³ Air		0.275			1.15	10	
Thallium	0.00561	4.91E-4	ng/m³ Air		0.00554			1.33	10	
Vanadium	1.35	0.0441	ng/m³ Air		1.35			0.181	10	
Zinc	ND	64.0	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4F1808-DUP4)			**Source: 4061725-32**		Prepared: 06/18/24 Analyzed: 06/19/24					
Antimony	0.123	0.0372	ng/m³ Air		0.124			1.28	10	SL
Arsenic	1.24	0.00903	ng/m³ Air		1.24			0.471	10	
Barium	8.52	1.03	ng/m³ Air		8.54			0.160	10	
Beryllium	0.0422	0.00308	ng/m³ Air		0.0444			5.09	10	
Cadmium	ND	0.0714	ng/m³ Air		ND				10	U
Chromium	6.35	2.13	ng/m³ Air		6.39			0.645	10	
Cobalt	1.21	0.0420	ng/m³ Air		1.20			0.359	10	
Copper	29.6	2.53	ng/m³ Air		29.4			0.505	10	
Lead	1.81	0.206	ng/m³ Air		1.81			0.303	10	
Manganese	44.4	1.82	ng/m³ Air		44.2			0.335	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Duplicate (B4F1808-DUP4) Continued		**Source: 4061725-32**		Prepared: 06/18/24 Analyzed: 06/19/24						
Molybdenum	1.58	0.346	ng/m³ Air		1.55			1.89	10	
Nickel	3.48	0.628	ng/m³ Air		3.48			0.221	10	
Selenium	0.302	0.00863	ng/m³ Air		0.297			1.66	10	
Thallium	0.00268	5.68E-4	ng/m³ Air		0.00269			0.255	10	QB-04
Vanadium	3.55	0.0510	ng/m³ Air		3.56			0.258	10	
Zinc	ND	74.0	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4F1808-DUP5)		**Source: 4061725-11R**		Prepared: 06/18/24 Analyzed: 06/20/24						
Barium	3.76	0.892	ng/m³ Air		3.64			3.11	10	
Beryllium	0.0106	0.00267	ng/m³ Air		0.0109			2.57	10	
Chromium	2.20	1.84	ng/m³ Air		2.14			2.79	10	
Molybdenum	2.83	0.299	ng/m³ Air		2.77			2.26	10	
Zinc	ND	64.0	ng/m³ Air		ND				10	U
Duplicate (B4F1808-DUP6)		**Source: 4061725-32R**		Prepared: 06/18/24 Analyzed: 06/20/24						
Barium	8.36	1.03	ng/m³ Air		8.48			1.39	10	
Beryllium	0.0382	0.00308	ng/m³ Air		0.0379			0.689	10	
Chromium	6.46	2.13	ng/m³ Air		6.52			0.936	10	
Molybdenum	1.55	0.346	ng/m³ Air		1.57			1.49	10	
Zinc	ND	74.0	ng/m³ Air		ND				10	U
Matrix Spike (B4F1808-MS1)		**Source: 4061725-22**		Prepared & Analyzed: 06/18/24						
Antimony	0.700	0.0318	ng/m³ Air	1.1410	0.0823	54.1	80-120			SL
Arsenic	2.57	0.00773	ng/m³ Air	2.2820	0.416	94.6	80-120			
Barium	26.6	0.883	ng/m³ Air	22.820	4.48	97.1	80-120			
Beryllium	1.23	0.00264	ng/m³ Air	1.1410	0.0411	104	80-120			
Cadmium	1.11	0.0611	ng/m³ Air	1.1410	ND	96.9	80-120			
Chromium	14.0	1.82	ng/m³ Air	11.410	2.91	97.6	80-120			
Cobalt	1.64	0.0360	ng/m³ Air	1.1410	0.550	95.7	80-120			
Copper	66.4	2.17	ng/m³ Air	22.820	43.7	99.8	80-120			
Lead	12.2	0.177	ng/m³ Air	11.410	0.566	102	80-120			
Manganese	20.9	1.56	ng/m³ Air	6.8461	14.6	93.0	80-120			
Molybdenum	4.34	0.296	ng/m³ Air	1.1410	3.20	100	80-120			
Nickel	3.69	0.538	ng/m³ Air	2.2820	1.51	95.7	80-120			
Selenium	2.45	0.00739	ng/m³ Air	2.2820	0.273	95.4	80-120			
Thallium	0.114	4.86E-4	ng/m³ Air	0.11410	0.00515	95.3	80-120			
Vanadium	3.79	0.0436	ng/m³ Air	2.2820	1.65	93.7	80-120			
Zinc	89.5	63.4	ng/m³ Air	68.461	ND	131	80-120			GC-BS, QB-01
Matrix Spike (B4F1808-MS2)		**Source: 4061725-01**		Prepared & Analyzed: 06/18/24						
Antimony	0.899	0.0333	ng/m³ Air	1.1918	0.189	59.5	80-120			SL

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Matrix Spike (B4F1808-MS2) Continued Source: 4061725-01 Prepared & Analyzed: 06/18/24										
Arsenic	5.99	0.00808	ng/m³ Air	2.3837	3.65	98.4	80-120			
Barium	36.4	0.922	ng/m³ Air	23.837	11.5	104	80-120			
Beryllium	1.27	0.00276	ng/m³ Air	1.1918	0.0267	104	80-120			
Cadmium	1.23	0.0639	ng/m³ Air	1.1918	ND	103	80-120			
Chromium	15.9	1.90	ng/m³ Air	11.918	4.46	96.4	80-120			
Cobalt	1.87	0.0376	ng/m³ Air	1.1918	0.720	96.2	80-120			
Copper	193	2.27	ng/m³ Air	23.837	160	136	80-120			QM-4X
Lead	13.0	0.184	ng/m³ Air	11.918	1.01	101	80-120			
Manganese	30.3	1.63	ng/m³ Air	7.1511	22.9	104	80-120			
Molybdenum	8.41	0.309	ng/m³ Air	1.1918	7.05	114	80-120			
Nickel	4.49	0.562	ng/m³ Air	2.3837	2.16	97.3	80-120			
Selenium	2.62	0.00772	ng/m³ Air	2.3837	0.313	97.0	80-120			
Thallium	0.117	5.08E-4	ng/m³ Air	0.11918	0.00513	94.1	80-120			
Vanadium	5.14	0.0456	ng/m³ Air	2.3837	2.78	98.8	80-120			
Zinc	116	66.2	ng/m³ Air	71.511	66.2	70.1	80-120			GC-BS, QB-01 QM-07
Matrix Spike Dup (B4F1808-MSD1) Source: 4061725-22 Prepared & Analyzed: 06/18/24										
Antimony	0.703	0.0318	ng/m³ Air	1.1410	0.0823	54.4	80-120	0.497	20	SL
Arsenic	2.53	0.00773	ng/m³ Air	2.2820	0.416	92.6	80-120	1.73	20	
Barium	26.5	0.883	ng/m³ Air	22.820	4.48	96.7	80-120	0.352	20	
Beryllium	1.23	0.00264	ng/m³ Air	1.1410	0.0411	104	80-120	0.173	20	
Cadmium	1.09	0.0611	ng/m³ Air	1.1410	ND	95.9	80-120	1.03	20	
Chromium	14.1	1.82	ng/m³ Air	11.410	2.91	98.1	80-120	0.457	20	
Cobalt	1.61	0.0360	ng/m³ Air	1.1410	0.550	92.9	80-120	2.00	20	
Copper	68.7	2.17	ng/m³ Air	22.820	43.7	110	80-120	3.31	20	
Lead	12.2	0.177	ng/m³ Air	11.410	0.566	102	80-120	0.0735	20	
Manganese	20.9	1.56	ng/m³ Air	6.8461	14.6	92.7	80-120	0.117	20	
Molybdenum	4.39	0.296	ng/m³ Air	1.1410	3.20	105	80-120	1.25	20	
Nickel	3.78	0.538	ng/m³ Air	2.2820	1.51	99.6	80-120	2.42	20	
Selenium	2.53	0.00739	ng/m³ Air	2.2820	0.273	98.8	80-120	3.13	20	
Thallium	0.113	4.86E-4	ng/m³ Air	0.11410	0.00515	94.8	80-120	0.525	20	
Vanadium	3.80	0.0436	ng/m³ Air	2.2820	1.65	94.2	80-120	0.314	20	
Zinc	89.5	63.4	ng/m³ Air	68.461	ND	131	80-120	0.0652	20	GC-BS, QB-01
Matrix Spike Dup (B4F1808-MSD2) Source: 4061725-01 Prepared & Analyzed: 06/18/24										
Antimony	0.890	0.0333	ng/m³ Air	1.1918	0.189	58.8	80-120	1.03	20	SL
Arsenic	5.97	0.00808	ng/m³ Air	2.3837	3.65	97.6	80-120	0.346	20	
Barium	36.1	0.922	ng/m³ Air	23.837	11.5	103	80-120	0.751	20	
Beryllium	1.32	0.00276	ng/m³ Air	1.1918	0.0267	108	80-120	4.05	20	

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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Matrix Spike Dup (B4F1808-MSD2) Contir				**Source: 4061725-01**		Prepared & Analyzed: 06/18/24				
Cadmium	1.22	0.0639	ng/m³ Air	1.1918	ND	103	80-120	0.745	20	
Chromium	15.9	1.90	ng/m³ Air	11.918	4.46	95.6	80-120	0.531	20	
Cobalt	1.85	0.0376	ng/m³ Air	1.1918	0.720	94.7	80-120	0.997	20	
Copper	195	2.27	ng/m³ Air	23.837	160	145	80-120	1.04	20	QM-4X
Lead	12.9	0.184	ng/m³ Air	11.918	1.01	99.5	80-120	1.30	20	
Manganese	30.1	1.63	ng/m³ Air	7.1511	22.9	101	80-120	0.599	20	
Molybdenum	8.55	0.309	ng/m³ Air	1.1918	7.05	126	80-120	1.60	20	QM-4X
Nickel	4.42	0.562	ng/m³ Air	2.3837	2.16	94.6	80-120	1.47	20	
Selenium	2.62	0.00772	ng/m³ Air	2.3837	0.313	96.7	80-120	0.249	20	
Thallium	0.117	5.08E-4	ng/m³ Air	0.11918	0.00513	94.0	80-120	0.104	20	
Vanadium	5.09	0.0456	ng/m³ Air	2.3837	2.78	96.7	80-120	0.970	20	
Zinc	118	66.2	ng/m³ Air	71.511	66.2	72.7	80-120	1.56	20	GC-BS, QB-01 QM-07
Post Spike (B4F1808-PS1)				**Source: 4061725-22**		Prepared & Analyzed: 06/18/24				
Antimony	0.310	0.0318	ng/m³ Air	0.22820	0.0823	100	75-125			SL
Arsenic	1.50	0.00773	ng/m³ Air	1.1410	0.416	95.4	75-125			
Barium	6.66	0.883	ng/m³ Air	2.2820	4.48	95.6	75-125			
Beryllium	0.283	0.00264	ng/m³ Air	0.22820	0.0411	106	75-125			
Cadmium	0.133	0.0611	ng/m³ Air	0.11410	ND	117	75-125			
Chromium	3.96	1.82	ng/m³ Air	1.1410	2.91	91.6	75-125			
Cobalt	0.759	0.0360	ng/m³ Air	0.22820	0.550	91.8	75-125			
Copper	54.7	2.17	ng/m³ Air	11.410	43.7	96.4	75-125			
Lead	23.7	0.177	ng/m³ Air	22.820	0.566	101	75-125			
Manganese	16.6	1.56	ng/m³ Air	2.2820	14.6	90.1	75-125			
Molybdenum	4.21	0.296	ng/m³ Air	1.1410	3.20	88.7	75-125			
Nickel	3.71	0.538	ng/m³ Air	2.2820	1.51	96.8	75-125			
Selenium	1.40	0.00739	ng/m³ Air	1.1410	0.273	98.7	75-125			
Thallium	0.0608	4.86E-4	ng/m³ Air	5.7051E-2	0.00515	97.6	75-125			
Vanadium	2.73	0.0436	ng/m³ Air	1.1410	1.65	94.7	75-125			
Zinc	ND	63.4	ng/m³ Air	22.820	ND		75-125			GC-BS, QB-01 U
Post Spike (B4F1808-PS2)				**Source: 4061725-01**		Prepared & Analyzed: 06/18/24				
Antimony	0.432	0.0333	ng/m³ Air	0.23837	0.189	102	75-125			SL
Arsenic	4.79	0.00808	ng/m³ Air	1.1918	3.65	95.8	75-125			
Barium	13.9	0.922	ng/m³ Air	2.3837	11.5	97.7	75-125			
Beryllium	0.281	0.00276	ng/m³ Air	0.23837	0.0267	107	75-125			
Cadmium	0.153	0.0639	ng/m³ Air	0.11918	ND	128	75-125			
Chromium	5.58	1.90	ng/m³ Air	1.1918	4.46	93.7	75-125			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Post Spike (B4F1808-PS2) Continued		**Source: 4061725-01**		Prepared & Analyzed: 06/18/24						
Cobalt	0.944	0.0376	ng/m³ Air	0.23837	0.720	94.3	75-125			
Copper	173	2.27	ng/m³ Air	11.918	160	106	75-125			
Lead	25.2	0.184	ng/m³ Air	23.837	1.01	101	75-125			
Manganese	25.0	1.63	ng/m³ Air	2.3837	22.9	88.1	75-125			
Molybdenum	8.18	0.309	ng/m³ Air	1.1918	7.05	94.7	75-125			
Nickel	4.48	0.562	ng/m³ Air	2.3837	2.16	97.3	75-125			
Selenium	1.47	0.00772	ng/m³ Air	1.1918	0.313	97.0	75-125			
Thallium	0.0620	5.08E-4	ng/m³ Air	5.9592E-2	0.00513	95.5	75-125			
Vanadium	3.92	0.0456	ng/m³ Air	1.1918	2.78	95.3	75-125			
Zinc	90.9	66.2	ng/m³ Air	23.837	66.2	104	75-125			GC-BS, QB-01
Dilution Check (B4F1808-SRL1)		**Source: 4061725-22**		Prepared & Analyzed: 06/18/24						
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.411	0.0387	ng/m³ Air		0.416			1.23	10	
Barium	4.49	4.41	ng/m³ Air		4.48			0.311	10	
Beryllium	0.0419	0.0132	ng/m³ Air		0.0411			1.95	10	
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.12	ng/m³ Air		ND				10	U
Cobalt	0.563	0.180	ng/m³ Air		0.550			2.36	10	
Copper	45.2	10.8	ng/m³ Air		43.7			3.39	10	
Lead	ND	0.883	ng/m³ Air		ND				10	U
Manganese	15.0	7.80	ng/m³ Air		14.6			2.98	10	
Molybdenum	3.26	1.48	ng/m³ Air		3.20			1.83	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.321	0.0370	ng/m³ Air		0.273			16.2	10	SRD-01
Thallium	0.00687	0.00243	ng/m³ Air		0.00515			28.5	10	
Vanadium	1.75	0.218	ng/m³ Air		1.65			5.59	10	
Zinc	ND	317	ng/m³ Air		ND				10	GC-BS, QB-01 U
Dilution Check (B4F1808-SRL2)		**Source: 4061725-01**		Prepared & Analyzed: 06/18/24						
Antimony	0.189	0.166	ng/m³ Air		0.189			0.385	10	SL
Arsenic	3.66	0.0404	ng/m³ Air		3.65			0.497	10	
Barium	11.5	4.61	ng/m³ Air		11.5			0.543	10	
Beryllium	0.0253	0.0138	ng/m³ Air		0.0267			5.41	10	
Cadmium	ND	0.319	ng/m³ Air		ND				10	U
Chromium	ND	9.52	ng/m³ Air		ND				10	U
Cobalt	0.737	0.188	ng/m³ Air		0.720			2.40	10	
Copper	165	11.3	ng/m³ Air		160			3.04	10	
Lead	0.989	0.922	ng/m³ Air		1.01			1.99	10	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Dilution Check (B4F1808-SRL2) Continue				**Source: 4061725-01**			Prepared & Analyzed: 06/18/24			
Manganese	23.3	8.14	ng/m³ Air		22.9			1.72	10	
Molybdenum	7.28	1.55	ng/m³ Air		7.05			3.21	10	
Nickel	ND	2.81	ng/m³ Air		ND				10	U
Selenium	0.338	0.0386	ng/m³ Air		0.313			7.54	10	
Thallium	0.00800	0.00254	ng/m³ Air		0.00513			43.7	10	
Vanadium	2.87	0.228	ng/m³ Air		2.78			3.02	10	
Zinc	ND	331	ng/m³ Air		ND				10	GC-BS, QB-01 U
Dilution Check (B4F1808-SRL3)				**Source: 4061725-11R**			Prepared: 06/18/24 Analyzed: 06/20/24			
Barium	ND	4.46	ng/m³ Air		ND				10	U
Beryllium	ND	0.0133	ng/m³ Air		ND				10	U
Chromium	ND	9.21	ng/m³ Air		ND				10	U
Molybdenum	2.74	1.50	ng/m³ Air		2.77			0.919	10	
Zinc	ND	320	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/26/2024 and Shanna Vasser 6/27/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/06/2024 – 06/12/2024
Report No: 4061725

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-060624-HM, MFL-FB01-060824-HM, MFL-LB01-060924-HM, and MFL-FB01-061224-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

June 13 through June 19, 2024
[Report Updated: March 31, 2025]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from June 13 through June 19, 2024, at the community locations listed below and shown on **Figure 1.**

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from June 13 through June 19 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

There were 28 samples collected for asbestos fibers at each of the monitoring locations throughout this reporting period. The sample collected at Leialii Hawaiian Homelands on June 17 was voided due to power failure at the site, preventing the team from determining the sample's total volume. All analytical results

from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected in ambient air samples at all community sampling locations. Although metals were detected, all concentrations were below the SSALs. (see **Table 2**).

The laboratory data sheets for the asbestos and metals samples results are included in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating in a generally south, southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary:

This section presents quality control measures conducted throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOP) are included in the CAMSP.

Air monitoring is conducted with Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer's procedures.

Asbestos samples are collected with Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
June 13 through June19, 2024
[Report Updated: March 31, 2025]

Screening Level		**150 µg/m^3**
6/13/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	130
	Lahaina Boys & Girls Club (AM-04)	6.7
6/14/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	80
	Lahaina Boys & Girls Club (AM-04)	9.3
6/15/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.1
6/16/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	5.8
6/17/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	4.5
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	4.7
6/18/2024	Leialii Hawaiian Homelands (AM-01)	8.4
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	8.8
	Lahaina Boys & Girls Club (AM-04)	5.1
6/19/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	5.8

Notes:
µg/m3 = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Results from Leialii Hawaiian Homelands on 6/17 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
June 13 through June 19 2024
[Report Updated: March 31, 2025]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening Level*		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
6/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000112	0.00145	0.00608	0.0000188	ND	0.00430	0.000667	0.0811	0.000665	0.0189	0.00518	0.00225	0.000178	0.00000162	0.00227	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000142	0.00102	0.00528	0.0000160	ND	0.00260	0.000502	0.0571	0.00150	0.0152	0.00257	0.00188	0.000183	0.00000194	0.00166	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000644	0.000448	0.00473	0.0000505	ND	0.00381	0.000833	0.0497	0.000655	0.0209	0.00224	0.00209	0.000210	0.00000162	0.00213	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000133	0.00104	0.00506	0.0000196	ND	0.00353	0.000623	0.0278	0.00151	0.0195	0.00148	0.00190	0.000193	0.00000163	0.00182	ND
6/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000211	0.00240	0.00701	0.0000185	ND	0.00498	0.000847	0.100	0.00133	0.0215	0.00609	0.00263	0.000229	0.00000154	0.00247	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000103	0.000490	0.00423	0.0000121	ND	0.00212	0.000340	0.0548	0.000806	0.0112	0.00236	0.00120	0.000210	0.00000116	0.00122	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000725	0.000352	0.00344	0.0000294	ND	0.00253	0.000455	0.0410	0.000688	0.0122	0.00243	0.00136	0.000190	0.00000106	0.00126	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.00257	0.00583	0.0000262	ND	0.00548	0.000791	0.0266	0.00123	0.0289	0.00141	0.00236	0.000260	0.00000156	0.00206	ND
6/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000236	0.00627	0.0114	0.0000355	0.0000634	0.00820	0.00163	0.117	0.000971	0.0411	0.00709	0.00456	0.000301	0.00000213	0.00456	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000167	0.00122	0.00864	0.0000359	ND	0.00538	0.00124	0.0696	0.00205	0.0333	0.00268	0.00359	0.000306	0.00000177	0.00389	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000594	0.000415	0.00373	0.0000291	ND	0.00291	0.000570	0.0516	0.000619	0.0155	0.00267	0.00157	0.000224	0.00000117	0.00159	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.00200	0.00585	0.0000216	ND	0.00448	0.000732	0.0315	0.00149	0.0253	0.00150	0.00239	0.000249	0.00000158	0.00211	ND
6/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000982	0.00166	0.00479	0.0000137	ND	0.00341	0.000583	0.122	0.000465	0.0164	0.00790	0.00173	0.000197	0.00000145	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000104	0.000536	0.00399	0.0000106	ND	0.00196	0.000289	0.0488	0.00201	0.0102	0.00233	0.00106	0.000191	0.00000118	0.000956	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000644	0.000214	0.00286	0.0000126	ND	0.00190	0.000245	0.0444	0.000465	0.00712	0.00200	0.000971	0.000170	0.000000891	0.000707	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000726	0.00484	0.0000167	ND	0.00340	0.000580	0.0223	0.00108	0.0193	0.00122	0.00178	0.000207	0.00000131	0.00150	ND
6/17/2024	Leialii Hawaiian Homelands (AM-01)		0.000128	0.00389	0.0120	0.0000463	ND	0.00906	0.00231	0.148	0.000572	0.0543	0.00823	0.00624	0.000302	0.00000208	0.00588	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000994	0.000529	0.00484	0.0000196	ND	0.00281	0.000514	0.0498	0.000981	0.0155	0.00234	0.00187	0.000206	0.00000102	0.00170	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000619	0.000247	0.00309	0.0000206	ND	0.00235	0.000353	0.0520	0.000472	0.00921	0.00234	0.00122	0.000149	0.000000839	0.00101	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000964	0.000520	0.00410	0.0000139	ND	0.00295	0.000454	0.0303	0.00105	0.0146	0.00140	0.00156	0.000175	0.00000103	0.00132	ND
6/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000164	0.00408	0.00751	0.0000199	ND	0.00539	0.000935	0.130	0.000498	0.0238	0.00710	0.00270	0.000214	0.00000125	0.00261	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000924	0.000399	0.00391	0.0000107	ND	0.00211	0.000323	0.0604	0.000915	0.00985	0.00268	0.00117	0.000173	0.000000753	0.00105	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000739	0.000482	0.00384	0.0000236	ND	0.00262	0.000431	0.0716	0.000931	0.0110	0.00277	0.00138	0.000176	0.000000705	0.00112	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000954	0.00104	0.00435	0.0000159	ND	0.00331	0.000529	0.0303	0.00111	0.0168	0.00173	0.00169	0.000176	0.000000967	0.00142	ND
6/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000819	0.000981	0.00543	0.0000182	ND	0.00360	0.000708	0.163	0.000479	0.0192	0.00806	0.00200	0.000219	0.00000192	0.00208	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000133	0.000524	0.00576	0.0000181	ND	0.00270	0.000505	0.0549	0.00141	0.0161	0.00214	0.00179	0.000214	0.00000199	0.00176	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000101	0.000358	0.00516	0.0000224	ND	0.00330	0.000443	0.0703	0.000814	0.0133	0.00297	0.00143	0.000204	0.00000188	0.00135	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000110	0.000778	0.00646	0.0000234	ND	0.00466	0.000736	0.0325	0.00162	0.0259	0.00185	0.00218	0.000261	0.00000260	0.00220	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.00188	0.00620	0.0000260	NA	0.00435	0.000820	0.0808	0.00120	0.0230	0.00420	0.00241	0.000230	0.00000160	0.00233	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/m3 = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Asbestos sample voided due to power failure

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
June 13, 2024 through June 19, 2024
[Report Updated: March 31, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/13/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	82	55	760.8
6/13/2024	AM-02	WW Pump Station #4	1.1	S	80	62	762.9
6/13/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	60	753.6
6/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	62	762.4
6/14/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	81	57	761.0
6/14/2024	AM-02	WW Pump Station #4	1.0	SSE	80	63	763.1
6/14/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	61	753.8
6/14/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	63	762.6
6/15/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	83	55	761.2
6/15/2024	AM-02	WW Pump Station #4	1.1	SSE	80	63	763.3
6/15/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	61	754.0
6/15/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	63	762.9
6/16/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	82	53	761.4
6/16/2024	AM-02	WW Pump Station #4	1.1	S	80	61	763.4
6/16/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	58	754.1
6/16/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	61	763.0
6/17/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	80	61	761.8
6/17/2024	AM-02	WW Pump Station #4	1.0	SSE	80	66	763.9
6/17/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	65	754.6
6/17/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSW	78	65	763.4
6/18/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	60	761.4
6/18/2024	AM-02	WW Pump Station #4	1.0	SSE	79	66	763.4
6/18/2024	AM-03	Lahaina Intermediate School	0.9	SE	78	65	754.2
6/18/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	66	763.0
6/19/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	56	760.9
6/19/2024	AM-02	WW Pump Station #4	1.2	SE	80	62	762.9
6/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	60	753.6
6/19/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	62	762.5

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061324-AB**		**Sample Description:**	**DL244921**
EMSL Sample Number:	042412412-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0001 **Customer Sample:** MFL-AM01-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	G3	None Detected									
A5	D2	None Detected									
A6	C10	None Detected									
A6	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061324-AB**	**Sample Description:**	**DL244849**
EMSL Sample Number:	042412412-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7287.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0002 **Customer Sample:** MFL-AM02-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	C9	None Detected									
B2	F8	None Detected									
B2	I6	None Detected									
B3	H5	None Detected									
B3	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061324-AB**	**Sample Description:**	**DL244861**
EMSL Sample Number:	042412412-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7388.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0003 **Customer Sample:** MFL-AM03-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A4	None Detected									
B5	E4	None Detected									
B5	G7	None Detected									
B6	H3	None Detected									
B6	E6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061324-AB** **Sample Description: DL244866**

EMSL Sample Number:	042412412-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0004 **Customer Sample:** MFL-AM04-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	B4	None Detected									
C2	D7	None Detected									
C2	H9	None Detected									
C3	H3	None Detected									
C3	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061324-AB** **Sample Description: DL244871**

EMSL Sample Number:	042412412-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0005 **Customer Sample:** MFL-FB01-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J3	None Detected									
C5	H6	None Detected									
C5	G3	None Detected									
C5	E2	None Detected									
C5	C5	None Detected									
C6	J2	None Detected									
C6	H6	None Detected									
C6	F7	None Detected									
C6	D8	None Detected									
C6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061424-AB**	**Sample Description:**	**DL244904**
EMSL Sample Number:	042412412-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7181.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0006 **Customer Sample:** MFL-AM01-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	B4	None Detected									
D2	E7	None Detected									
D2	J3	None Detected									
D3	B3	None Detected									
D3	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061424-AB**		**Sample Description:**	**DL244870**
EMSL Sample Number:	042412412-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0007 **Customer Sample:** MFL-AM02-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	A9	None Detected									
D6	E7	None Detected									
D6	H10	None Detected									
D7	I1	None Detected									
D7	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061424-AB** **Sample Description: DL244860**

EMSL Sample Number:	042412412-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7340.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0008 **Customer Sample:** MFL-AM03-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	H5	None Detected									
E2	B6	None Detected									
E3	C6	None Detected									
E3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061424-AB** **Sample Description:** **DL244843**

EMSL Sample Number:	042412412-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0009 **Customer Sample:** MFL-AM04-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B4	None Detected									
E5	E3	None Detected									
E5	H2	None Detected									
E6	I8	None Detected									
E6	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061424-AB** **Sample Description: D244859**

EMSL Sample Number:	042412412-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0010 **Customer Sample:** MFL-FB01-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	C7	None Detected									
F2	E9	None Detected									
F2	G10	None Detected									
F2	I8	None Detected									
F3	J5	None Detected									
F3	H6	None Detected									
F3	F7	None Detected									
F3	D8	None Detected									
F3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061524-AB** **Sample Description: DL244868**

EMSL Sample Number:	042412412-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0011 **Customer Sample:** MFL-AM01-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A10	None Detected									
F5	E9	None Detected									
F5	H7	None Detected									
F6	H5	None Detected									
F6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061524-AB**	**Sample Description:**	**DL244865**
EMSL Sample Number:	042412412-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7249.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0012 **Customer Sample:** MFL-AM02-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	I7	None Detected									
G2	G3	None Detected									
G2	C2	None Detected									
G3	G3	None Detected									
G3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061524-AB**		**Sample Description:**	**DL244873**
EMSL Sample Number:	042412412-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7385.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0013 **Customer Sample:** MFL-AM03-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	J4	None Detected									
G6	G5	None Detected									
G6	B7	None Detected									
G7	C3	None Detected									
G7	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061524-AB**	**Sample Description:**	**DL244949**
EMSL Sample Number:	042412412-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0014 **Customer Sample:** MFL-AM04-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	C4	None Detected									
H2	E7	None Detected									
H2	I8	None Detected									
H3	C8	None Detected									
H3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061524-AB** **Sample Description: DL244896**

EMSL Sample Number:	042412412-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0015 **Customer Sample:** MFL-FB01-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	A8	None Detected									
H6	C10	None Detected									
H6	E7	None Detected									
H6	G9	None Detected									
H6	I10	None Detected									
H7	J1	None Detected									
H7	H6	None Detected									
H7	F1	None Detected									
H7	D5	None Detected									
H7	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061624-AB**	**Sample Description:**	**DL244858**
EMSL Sample Number:	042412412-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0016 **Customer Sample:** MFL-AM01-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A4	None Detected									
I2	D6	None Detected									
I2	H3	None Detected									
I3	B5	None Detected									
I3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061624-AB**	**Sample Description:**	**DL244845**
EMSL Sample Number:	042412412-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7271.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0017 **Customer Sample:** MFL-AM02-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J4	None Detected									
I5	G7	None Detected									
I5	B6	None Detected									
I6	B2	None Detected									
I6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061624-AB** **Sample Description: DL244867**

EMSL Sample Number:	042412412-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7014.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0018 **Customer Sample:** MFL-AM03-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	I7	None Detected									
I2	F8	None Detected									
I2	C10	None Detected									
I3	C1	None Detected									
I3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061624-AB**		**Sample Description:**	**DL244872**
EMSL Sample Number:	042412412-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0019 **Customer Sample:** MFL-AM04-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	B8	None Detected									
J5	E7	None Detected									
J5	G4	None Detected									
J6	I6	None Detected									
J6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061624-AB** **Sample Description: DL244852**

EMSL Sample Number:	042412412-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0020 **Customer Sample:** MFL-FB01-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A9	None Detected									
K1	C8	None Detected									
K1	E7	None Detected									
K1	G8	None Detected									
K1	I4	None Detected									
K2	J2	None Detected									
K2	H1	None Detected									
K2	F3	None Detected									
K2	D4	None Detected									
K2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042412412-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412412
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J4	None Detected									
A2	H5	None Detected									
A2	F7	None Detected									
A2	D5	None Detected									
A2	B5	None Detected									
A3	A8	None Detected									
A3	C5	None Detected									
A3	E3	None Detected									
A3	G6	None Detected									
A3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042412412

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only
#042412412

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Lena Diaz
Sampled By Signature:	
No. of Samples in Shipment	20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON NJ 2024 JUN 19 P 2:50

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-061324-AB	DL244921	7,170.008	06/13/24 1058
MFL-AM02-061324-AB	DL244849	7,281.566	06/13/24 1118
MFL-AM03-061324-AB	DL244861	7,388.192	06/13/24 1300
MFL-AM04-061324-AB	DL244866	7,196.256	06/13/24 1321
MFL-FB01-061324-AB	DL244871	0	06/13/24 1200
MFL-AM01-061424-AB	DL244904	7,181.568	06/14/24 1100
MFL-AM02-061424-AB	DL244870	7,122.240	06/14/24 1122
MFL-AM03-061424-AB	DL244860	7,340.933	06/14/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

2058

Method of Shipment:	Fed Ex		Sample Condition Upon Receipt:		
Relinquished by:	Lena Diaz	Date/Time: 06/17/24 1100	Received by:	FEX	Date/Time 06/19/24 WA
Relinquished by:		Date/Time:	Received by:		Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042412412

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM04-061424-AB DL244843 7,183.467 06/14/24 1320

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
~~MFL-AM04-061424-AB~~		~~DL244860~~	~~7,310.933~~	~~06/14/24 1300~~
MFL-FB01-061424-AB		DL244859	0	06/14/24 1200
MFL-AM01-061524-AB		DL244868	7,206.065	06/15/24 1057
MFL-AM02-061524-AB		DL244865	7,249.017	06/15/24 1114
MFL-AM03-061524-AB		DL244873	7,385.904	06/15/24 1303
MFL-AM04-061524-AB		DL244949	7,234.992	06/15/24 1322
MFL-FB01-061524-AB		DL244896	0	06/15/24 1200
MFL-AM01-061624-AB		DL244858	7,235.884	06/16/24 1050
MFL-AM02-061624-AB		DL244845 ~~DL244854~~	7,271.376	06/16/24 1105
MFL-AM03-061624-AB		DL244867	7,014.066	06/16/24 1253
MFL-AM04-061624-AB		DL244872	7,152.075	06/16/24 1312
MFL-FB01-061624-AB		DL244852	0	06/16/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 19 P 12:50

Method of Shipment: Fed EX		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/17/24 1100	Received by: EFX	Date/Time: 06/19/24 10A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/27/2024 and Shanna Vasser 07/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/13/2024 – 06/16/2024
Report No: 42412412

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061724-AB**		**Sample Description:**	**DL244847**
EMSL Sample Number:	042412810-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6970.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0001 **Customer Sample:** MFL-AM02-061724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B3	None Detected									
B1	E7	None Detected									
B2	C7	None Detected									
B2	F9	None Detected									
B2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061724-AB** **Sample Description: DL244857**

EMSL Sample Number:	042412810-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7126.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0002 **Customer Sample:** MFL-AM03-061724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	B8	None Detected									
B6	D6	None Detected									
B6	J3	None Detected									
B7	H9	None Detected									
B7	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061724-AB**	**Sample Description:**	**DL244918**
EMSL Sample Number:	042412810-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7165.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0003 **Customer Sample:** MFL-AM04-061724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I7	None Detected									
C1	F3	None Detected									
C1	C4	None Detected									
C2	J5	None Detected									
C2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061724-AB** **Sample Description: DL244842**

EMSL Sample Number:	042412810-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0004 **Customer Sample:** MFL-FB01-061724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	H6	None Detected									
C5	G10	None Detected									
C5	E8	None Detected									
C5	C7	None Detected									
C6	A3	None Detected									
C6	C1	None Detected									
C6	E1	None Detected									
C6	G3	None Detected									
C6	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061824-AB** **Sample Description:** **DL244850**

EMSL Sample Number:	042412810-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7192.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0005 **Customer Sample:** MFL-AM01-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A4	None Detected									
D2	C3	None Detected									
D2	F4	None Detected									
D3	H7	None Detected									
D3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	06/24/2024 10:00 AM
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Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061824-AB**		**Sample Description:**	**DL244848**
EMSL Sample Number:	042412810-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7350.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0006 **Customer Sample:** MFL-AM02-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D5	None Detected									
D5	G8	None Detected									
D6	G7	None Detected									
D6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061824-AB** **Sample Description: DL244841**

EMSL Sample Number:	042412810-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0007 **Customer Sample:** MFL-AM03-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	G8	None Detected									
E1	D6	None Detected									
E1	A5	None Detected									
E2	H4	None Detected									
E2	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061824-AB**	**Sample Description:**	**DL244840**
EMSL Sample Number:	042412810-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7231.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0008 **Customer Sample:** MFL-AM04-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J9	None Detected									
E5	H6	None Detected									
E5	F3	None Detected									
E6	C8	None Detected									
E6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061824-AB** **Sample Description: DL248398**

EMSL Sample Number:	042412810-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0009 **Customer Sample:** MFL-FB01-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J4	None Detected									
F2	H1	None Detected									
F2	F3	None Detected									
F2	D6	None Detected									
F2	B1	None Detected									
F3	J4	None Detected									
F3	H3	None Detected									
F3	F1	None Detected									
F3	D2	None Detected									
F3	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061924-AB** **Sample Description: DL248523**

EMSL Sample Number:	042412810-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0010 **Customer Sample:** MFL-AM01-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J3	None Detected									
F5	H6	None Detected									
F5	C3	None Detected									
F6	C10	None Detected									
F6	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412810
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Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-061924-AB** **Sample Description: DL248389**

EMSL Sample Number:	042412810-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0011 **Customer Sample:** MFL-AM02-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A8	None Detected									
G1	D3	None Detected									
G1	G4	None Detected									
G2	C3	None Detected									
G2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061924-AB** **Sample Description: DL248404**

EMSL Sample Number:	042412810-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7278.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0012 **Customer Sample:** MFL-AM03-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A3	None Detected									
G5	E4	None Detected									
G5	J4	None Detected									
G6	B5	None Detected									
G6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061924-AB** **Sample Description: DL248411**

EMSL Sample Number:	042412810-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0013 **Customer Sample:** MFL-AM04-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B4	None Detected									
H1	D6	None Detected									
H1	F9	None Detected									
H2	G1	None Detected									
H2	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061924-AB** **Sample Description: DL248403**

EMSL Sample Number:	042412810-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0014 **Customer Sample:** MFL-FB01-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J3	None Detected									
H5	H2	None Detected									
H5	F4	None Detected									
H5	D2	None Detected									
H5	B4	None Detected									
H6	J2	None Detected									
H6	H1	None Detected									
H6	F4	None Detected									
H6	D1	None Detected									
H6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042412810-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042412810
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A5	None Detected									
A1	D3	None Detected									
A1	F6	None Detected									
A1	I8	None Detected									
A2	J3	None Detected									
A2	G7	None Detected									
A2	B4	None Detected									
A3	A4	None Detected									
A3	E7	None Detected									
A3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042412810

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042412810

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

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EMSL
CINNAMINSON, NJ
2024 JUN 24 A 10:46

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature: Lena Diaz
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☑ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)
Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
* ~~MFL-AM01-061724-AB~~	~~DL244855 VOID~~		~~06/17/24 1102~~ (LO)
MFL-AM02-061724-AB	DL244847	6,970.608	06/17/24 1109
MFL-AM03-061724-AB	DL244857	7,126.488	06/17/24 1256
MFL-AM04-061724-AB	DL244918	7,165.728	06/17/24 1315
MFL-FB01-061724-AB	DL244842	0	06/17/24 1200
MFL-AM01-061824-AB	DL244850	7,192.220	06/18/24 1100
MFL-AM02-061824-AB	DL244848	7,350.602	06/18/24 1117
MFL-AM03-061824-AB	DL244841	7,269.109	06/18/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Sample was voided due to uncertainty of run time of Casella cuoos.

All samples received acceptable for analysis.

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/20/24 1100	Received by:	Date/Time: 6.24.24 (140)
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042412810

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsbLab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 24 I A 10:46

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

~~*Indicates~~ (LD)
*Indicates start of new Lot # 37502 (LD)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-061824-AB	DL244840	7,231.840	06/18/24 1322
* MFL-FB01-061824-AB	DL248398	0	06/18/24 1200
MFL-AM01-061924-AB	DL248523	7,189.190	06/19/24 1058
MFL-AM02-061924-AB	DL248389	7,159.626	06/19/24 1113
MFL-AM03-061924-AB	DL248404	7,278.192	06/19/24 1306
MFL-AM04-061924-AB	DL248411	7,199.280	06/19/24 1325
MFL-FB01-061924-AB	DL248403	0	06/19/24 1200

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/20/24 1100	Received by:	Date/Time 6-24-24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/02/2024 and Shanna Vasser 07/03/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/17/2024 – 06/19/2024
Report No: 42412810

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM01-061724-AB was listed on the CoC, but crossed off, voided (due to run time uncertainty) and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 02, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 06/24/24 15:17.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-061324-HM	4062433-01	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM02-061324-HM	4062433-02	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM03-061324-HM	4062433-03	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM04-061324-HM	4062433-04	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM01-061424-HM	4062433-05	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM02-061424-HM	4062433-06	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM03-061424-HM	4062433-07	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM04-061424-HM	4062433-08	Air	06/14/24 23:59	06/24/24 15:17
MFL-FB01-061424-HM	4062433-09	Air	06/14/24 00:00	06/24/24 15:17
MFL-AM01-061524-HM	4062433-10	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM02-061524-HM	4062433-11	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM03-061524-HM	4062433-12	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM04-061524-HM	4062433-13	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM01-061624-HM	4062433-14	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM02-061624-HM	4062433-15	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM03-061624-HM	4062433-16	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM04-061624-HM	4062433-17	Air	06/16/24 23:59	06/24/24 15:17
MFL-FB01-061624-HM	4062433-18	Air	06/16/24 00:00	06/24/24 15:17
MFL-AM01-061724-HM	4062433-19	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM02-061724-HM	4062433-20	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM03-061724-HM	4062433-21	Air	06/17/24 23:59	06/24/24 15:17

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-061724-HM	4062433-22	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM01-061824-HM	4062433-23	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM02-061824-HM	4062433-24	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM03-061824-HM	4062433-25	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM04-061824-HM	4062433-26	Air	06/18/24 23:59	06/24/24 15:17
MFL-FB01-061824-HM	4062433-27	Air	06/18/24 00:00	06/24/24 15:17
MFL-AM01-061924-HM	4062433-28	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM02-061924-HM	4062433-29	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM03-061924-HM	4062433-30	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM04-061924-HM	4062433-31	Air	06/19/24 23:59	06/24/24 15:17

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061324-HM
Matrix: Air
Lab ID: 4062433-01
Sample Volume: 1930.179 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:09

Comments: Q8508861 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0325**
Arsenic	**7440-38-2**	**1.45**		**0.00790**
Barium	**7440-39-3**	**6.08**		**0.902**
Beryllium	**7440-41-7**	**0.0188**		**0.00270**
Cadmium	7440-43-9	0.0231	U	0.0625
Chromium	**7440-47-3**	**4.30**		**1.86**
Cobalt	**7440-48-4**	**0.667**		**0.0368**
Copper	**7440-50-8**	**81.1**		**2.22**
Lead	**7439-92-1**	**0.665**		**0.180**
Manganese	**7439-96-5**	**18.9**		**1.59**
Molybdenum	**7439-98-7**	**5.18**		**0.303**
Nickel	**7440-02-0**	**2.25**		**0.550**
Selenium	**7782-49-2**	**0.178**		**0.00755**
Thallium	**7440-28-0**	**0.00162**		**4.96E-4**
Vanadium	**7440-62-2**	**2.27**		**0.0446**
Zinc	7440-66-6	25.8	U	64.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061324-HM
Matrix: Air
Lab ID: 4062433-02
Sample Volume: 2029.232 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/25/24 21:26

Comments: Q8508860 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.02**		**0.00751**
Barium	**7440-39-3**	**5.28**		**0.858**
Beryllium	**7440-41-7**	**0.0160**		**0.00257**
Cadmium	7440-43-9	0.0164	U	0.0594
Chromium	**7440-47-3**	**2.60**		**1.77**
Cobalt	**7440-48-4**	**0.502**		**0.0350**
Copper	**7440-50-8**	**57.1**	QM-07	**2.11**
Lead	**7439-92-1**	**1.50**		**0.172**
Manganese	**7439-96-5**	**15.2**		**1.52**
Molybdenum	**7439-98-7**	**2.57**		**0.288**
Nickel	**7440-02-0**	**1.88**		**0.523**
Selenium	**7782-49-2**	**0.183**	SRD-01	**0.00718**
Thallium	**7440-28-0**	**0.00194**		**4.72E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0424**
Zinc	7440-66-6	27.6	U	61.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061324-HM
Matrix: Air
Lab ID: 4062433-03
Sample Volume: 1978.553 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:28

Comments: Q8508859 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0644**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.448**		**0.00771**
Barium	**7440-39-3**	**4.73**		**0.880**
Beryllium	**7440-41-7**	**0.0505**		**0.00263**
Cadmium	7440-43-9	0.0139	U	0.0609
Chromium	**7440-47-3**	**3.81**		**1.82**
Cobalt	**7440-48-4**	**0.833**		**0.0359**
Copper	**7440-50-8**	**49.7**		**2.16**
Lead	**7439-92-1**	**0.655**		**0.176**
Manganese	**7439-96-5**	**20.9**		**1.55**
Molybdenum	**7439-98-7**	**2.24**		**0.295**
Nickel	**7440-02-0**	**2.09**		**0.536**
Selenium	**7782-49-2**	**0.210**		**0.00737**
Thallium	**7440-28-0**	**0.00162**		**4.84E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0435**
Zinc	7440-66-6	22.4	U	63.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061324-HM
Matrix: Air
Lab ID: 4062433-04
Sample Volume: 1740.497 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:44

Comments: Q8508858 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0361**
Arsenic	**7440-38-2**	**1.04**		**0.00876**
Barium	**7440-39-3**	**5.06**		**1.00**
Beryllium	**7440-41-7**	**0.0196**		**0.00299**
Cadmium	7440-43-9	0.0226	U	0.0693
Chromium	**7440-47-3**	**3.53**		**2.07**
Cobalt	**7440-48-4**	**0.623**		**0.0408**
Copper	**7440-50-8**	**27.8**		**2.46**
Lead	**7439-92-1**	**1.51**		**0.200**
Manganese	**7439-96-5**	**19.5**		**1.77**
Molybdenum	**7439-98-7**	**1.48**		**0.336**
Nickel	**7440-02-0**	**1.90**		**0.609**
Selenium	**7782-49-2**	**0.193**		**0.00838**
Thallium	**7440-28-0**	**0.00163**		**5.51E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0495**
Zinc	7440-66-6	24.8	U	71.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061424-HM
Matrix: Air
Lab ID: 4062433-05
Sample Volume: 2046.239 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:00

Comments: Q8504293 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.211**	SL	**0.0307**
Arsenic	**7440-38-2**	**2.40**		**0.00745**
Barium	**7440-39-3**	**7.01**		**0.851**
Beryllium	**7440-41-7**	**0.0185**		**0.00254**
Cadmium	7440-43-9	0.0206	U	0.0589
Chromium	**7440-47-3**	**4.98**		**1.76**
Cobalt	**7440-48-4**	**0.847**		**0.0347**
Copper	**7440-50-8**	**100**		**2.09**
Lead	**7439-92-1**	**1.33**		**0.170**
Manganese	**7439-96-5**	**21.5**		**1.50**
Molybdenum	**7439-98-7**	**6.09**		**0.285**
Nickel	**7440-02-0**	**2.63**		**0.518**
Selenium	**7782-49-2**	**0.229**		**0.00712**
Thallium	**7440-28-0**	**0.00154**		**4.68E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0421**
Zinc	7440-66-6	31.0	U	61.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061424-HM
Matrix: Air
Lab ID: 4062433-06
Sample Volume: 2026.086 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:17

Comments: Q8504292 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.490**		**0.00752**
Barium	**7440-39-3**	**4.23**		**0.859**
Beryllium	**7440-41-7**	**0.0121**		**0.00257**
Cadmium	7440-43-9	0.0128	U	0.0595
Chromium	**7440-47-3**	**2.12**		**1.77**
Cobalt	**7440-48-4**	**0.340**		**0.0350**
Copper	**7440-50-8**	**54.8**		**2.11**
Lead	**7439-92-1**	**0.806**		**0.172**
Manganese	**7439-96-5**	**11.2**		**1.52**
Molybdenum	**7439-98-7**	**2.36**		**0.288**
Nickel	**7440-02-0**	**1.20**		**0.524**
Selenium	**7782-49-2**	**0.210**		**0.00720**
Thallium	**7440-28-0**	**0.00116**		**4.73E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0425**
Zinc	7440-66-6	17.8	U	61.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061424-HM
Matrix: Air
Lab ID: 4062433-07
Sample Volume: 2072.075 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:33

Comments: Q8508856 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0725**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.352**		**0.00736**
Barium	**7440-39-3**	**3.44**		**0.840**
Beryllium	**7440-41-7**	**0.0294**		**0.00251**
Cadmium	7440-43-9	0.0122	U	0.0582
Chromium	**7440-47-3**	**2.53**		**1.74**
Cobalt	**7440-48-4**	**0.455**		**0.0342**
Copper	**7440-50-8**	**41.0**		**2.07**
Lead	**7439-92-1**	**0.688**		**0.168**
Manganese	**7439-96-5**	**12.2**		**1.48**
Molybdenum	**7439-98-7**	**2.43**		**0.282**
Nickel	**7440-02-0**	**1.36**		**0.512**
Selenium	**7782-49-2**	**0.190**		**0.00704**
Thallium	**7440-28-0**	**0.00106**		**4.62E-4**
Vanadium	**7440-62-2**	**1.26**		**0.0415**
Zinc	7440-66-6	15.0	U	60.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061424-HM
Matrix: Air
Lab ID: 4062433-08
Sample Volume: 1757.469 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/25/24 17:42

Comments: Q8508853 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0357**
Arsenic	**7440-38-2**	**2.57**		**0.00867**
Barium	**7440-39-3**	**5.83**		**0.991**
Beryllium	**7440-41-7**	**0.0262**		**0.00296**
Cadmium	7440-43-9	0.0235	U	0.0686
Chromium	**7440-47-3**	**5.48**		**2.05**
Cobalt	**7440-48-4**	**0.791**		**0.0404**
Copper	**7440-50-8**	**26.6**		**2.43**
Lead	**7439-92-1**	**1.23**		**0.198**
Manganese	**7439-96-5**	**28.9**	QM-07	**1.75**
Molybdenum	**7439-98-7**	**1.41**		**0.332**
Nickel	**7440-02-0**	**2.36**		**0.604**
Selenium	**7782-49-2**	**0.260**		**0.00829**
Thallium	**7440-28-0**	**0.00156**		**5.45E-4**
Vanadium	**7440-62-2**	**2.06**		**0.0490**
Zinc	7440-66-6	23.1	U	71.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061424-HM
Matrix: Air
Lab ID: 4062433-09
Sample Volume: 2046.239 m³
Filter ID:
Sampled: 06/14/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:48

Comments: Q8508850 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0186	SL, U	0.0307
Arsenic	**7440-38-2**	**0.0348**	FB-01	**0.00745**
Barium	7440-39-3	0.715	U	0.851
Beryllium	7440-41-7	2.87E-4	U	0.00254
Cadmium	7440-43-9	7.46E-4	U	0.0589
Chromium	7440-47-3	0.953	U	1.76
Cobalt	7440-48-4	0.0153	U	0.0347
Copper	7440-50-8	1.34	U	2.09
Lead	7439-92-1	0.0373	U	0.170
Manganese	7439-96-5	0.254	U	1.50
Molybdenum	7439-98-7	0.148	U	0.285
Nickel	7440-02-0	0.392	U	0.518
Selenium	7782-49-2	5.36E-4	U	0.00712
Thallium	7440-28-0	5.04E-5	U	4.68E-4
Vanadium	7440-62-2	0.0325	U	0.0421
Zinc	7440-66-6	11.8	U	61.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061524-HM
Matrix: Air
Lab ID: 4062433-10
Sample Volume: 1951.165 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:02

Comments: Q8508851 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.236**	SL	**0.0322**
Arsenic	**7440-38-2**	**6.27**		**0.00781**
Barium	**7440-39-3**	**11.4**		**0.892**
Beryllium	**7440-41-7**	**0.0355**		**0.00267**
Cadmium	**7440-43-9**	**0.0634**		**0.0618**
Chromium	**7440-47-3**	**8.20**		**1.84**
Cobalt	**7440-48-4**	**1.63**		**0.0364**
Copper	**7440-50-8**	**117**		**2.19**
Lead	**7439-92-1**	**0.971**		**0.178**
Manganese	**7439-96-5**	**41.1**		**1.58**
Molybdenum	**7439-98-7**	**7.09**		**0.299**
Nickel	**7440-02-0**	**4.56**		**0.544**
Selenium	**7782-49-2**	**0.301**		**0.00747**
Thallium	**7440-28-0**	**0.00213**		**4.91E-4**
Vanadium	**7440-62-2**	**4.56**		**0.0441**
Zinc	7440-66-6	31.6	U	64.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061524-HM
Matrix: Air
Lab ID: 4062433-11
Sample Volume: 2023.269 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:20

Comments: Q8508846 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.167**	SL	**0.0310**
Arsenic	**7440-38-2**	**1.22**		**0.00753**
Barium	**7440-39-3**	**8.64**		**0.860**
Beryllium	**7440-41-7**	**0.0359**		**0.00257**
Cadmium	7440-43-9	0.0518	U	0.0596
Chromium	**7440-47-3**	**5.38**		**1.78**
Cobalt	**7440-48-4**	**1.24**		**0.0351**
Copper	**7440-50-8**	**69.6**		**2.11**
Lead	**7439-92-1**	**2.05**		**0.172**
Manganese	**7439-96-5**	**33.3**		**1.52**
Molybdenum	**7439-98-7**	**2.68**		**0.289**
Nickel	**7440-02-0**	**3.59**		**0.524**
Selenium	**7782-49-2**	**0.306**		**0.00721**
Thallium	**7440-28-0**	**0.00177**		**4.74E-4**
Vanadium	**7440-62-2**	**3.89**		**0.0425**
Zinc	7440-66-6	28.0	U	61.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061524-HM
Matrix: Air
Lab ID: 4062433-12
Sample Volume: 1981.867 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:37

Comments: Q8508845 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0594**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.415**		**0.00769**
Barium	**7440-39-3**	**3.73**		**0.878**
Beryllium	**7440-41-7**	**0.0291**		**0.00263**
Cadmium	7440-43-9	0.0125	U	0.0608
Chromium	**7440-47-3**	**2.91**		**1.81**
Cobalt	**7440-48-4**	**0.570**		**0.0358**
Copper	**7440-50-8**	**51.6**		**2.16**
Lead	**7439-92-1**	**0.619**		**0.176**
Manganese	**7439-96-5**	**15.5**		**1.55**
Molybdenum	**7439-98-7**	**2.67**		**0.295**
Nickel	**7440-02-0**	**1.57**		**0.535**
Selenium	**7782-49-2**	**0.224**		**0.00736**
Thallium	**7440-28-0**	**0.00117**		**4.84E-4**
Vanadium	**7440-62-2**	**1.59**		**0.0434**
Zinc	7440-66-6	15.7	U	63.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061524-HM
Matrix: Air
Lab ID: 4062433-13
Sample Volume: 1717.635 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 03:50

Comments: Q8508844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0366**
Arsenic	**7440-38-2**	**2.00**		**0.00888**
Barium	**7440-39-3**	**5.85**		**1.01**
Beryllium	**7440-41-7**	**0.0216**		**0.00303**
Cadmium	7440-43-9	0.0241	U	0.0702
Chromium	**7440-47-3**	**4.48**		**2.09**
Cobalt	**7440-48-4**	**0.732**		**0.0413**
Copper	**7440-50-8**	**31.5**		**2.49**
Lead	**7439-92-1**	**1.49**		**0.203**
Manganese	**7439-96-5**	**25.3**		**1.79**
Molybdenum	**7439-98-7**	**1.50**		**0.340**
Nickel	**7440-02-0**	**2.39**		**0.618**
Selenium	**7782-49-2**	**0.249**		**0.00849**
Thallium	**7440-28-0**	**0.00158**		**5.58E-4**
Vanadium	**7440-62-2**	**2.11**		**0.0501**
Zinc	7440-66-6	23.2	U	72.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061624-HM
Matrix: Air
Lab ID: 4062433-14
Sample Volume: 1981.266 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:07

Comments: Q8508843 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0982**	SL	**0.0317**
Arsenic	**7440-38-2**	**1.66**		**0.00769**
Barium	**7440-39-3**	**4.79**		**0.879**
Beryllium	**7440-41-7**	**0.0137**		**0.00263**
Cadmium	7440-43-9	0.0156	U	0.0609
Chromium	**7440-47-3**	**3.41**		**1.81**
Cobalt	**7440-48-4**	**0.583**		**0.0358**
Copper	**7440-50-8**	**122**		**2.16**
Lead	**7439-92-1**	**0.465**		**0.176**
Manganese	**7439-96-5**	**16.4**		**1.55**
Molybdenum	**7439-98-7**	**7.90**		**0.295**
Nickel	**7440-02-0**	**1.73**		**0.535**
Selenium	**7782-49-2**	**0.197**		**0.00736**
Thallium	**7440-28-0**	**0.00145**		**4.84E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0434**
Zinc	7440-66-6	17.3	U	63.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061624-HM
Matrix: Air
Lab ID: 4062433-15
Sample Volume: 2071.372 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:39

Comments: Q8504308 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.536**		**0.00736**
Barium	**7440-39-3**	**3.99**		**0.840**
Beryllium	**7440-41-7**	**0.0106**		**0.00251**
Cadmium	7440-43-9	0.0159	U	0.0582
Chromium	**7440-47-3**	**1.96**		**1.74**
Cobalt	**7440-48-4**	**0.289**		**0.0342**
Copper	**7440-50-8**	**48.8**		**2.07**
Lead	**7439-92-1**	**2.01**		**0.168**
Manganese	**7439-96-5**	**10.2**		**1.48**
Molybdenum	**7439-98-7**	**2.33**		**0.282**
Nickel	**7440-02-0**	**1.06**		**0.512**
Selenium	**7782-49-2**	**0.191**		**0.00704**
Thallium	**7440-28-0**	**0.00118**		**4.63E-4**
Vanadium	**7440-62-2**	**0.956**		**0.0416**
Zinc	7440-66-6	15.9	U	60.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061624-HM
Matrix: Air
Lab ID: 4062433-16
Sample Volume: 1967.781 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:59

Comments: Q8504307 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0644**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.214**		**0.00775**
Barium	**7440-39-3**	**2.86**		**0.885**
Beryllium	**7440-41-7**	**0.0126**		**0.00265**
Cadmium	7440-43-9	0.0174	U	0.0613
Chromium	**7440-47-3**	**1.90**		**1.83**
Cobalt	**7440-48-4**	**0.245**		**0.0360**
Copper	**7440-50-8**	**44.4**		**2.17**
Lead	**7439-92-1**	**0.465**		**0.177**
Manganese	**7439-96-5**	**7.12**		**1.56**
Molybdenum	**7439-98-7**	**2.00**		**0.297**
Nickel	**7440-02-0**	**0.971**		**0.539**
Selenium	**7782-49-2**	**0.170**		**0.00741**
Thallium	**7440-28-0**	**8.91E-4**		**4.87E-4**
Vanadium	**7440-62-2**	**0.707**		**0.0437**
Zinc	7440-66-6	12.9	U	63.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061624-HM
Matrix: Air
Lab ID: 4062433-17
Sample Volume: 1772.05 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:13

Comments: Q8504306 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.726**		**0.00860**
Barium	**7440-39-3**	**4.84**		**0.982**
Beryllium	**7440-41-7**	**0.0167**		**0.00294**
Cadmium	7440-43-9	0.0177	U	0.0680
Chromium	**7440-47-3**	**3.40**		**2.03**
Cobalt	**7440-48-4**	**0.580**		**0.0400**
Copper	**7440-50-8**	**22.3**		**2.41**
Lead	**7439-92-1**	**1.08**		**0.196**
Manganese	**7439-96-5**	**19.3**		**1.74**
Molybdenum	**7439-98-7**	**1.22**		**0.330**
Nickel	**7440-02-0**	**1.78**		**0.599**
Selenium	**7782-49-2**	**0.207**		**0.00823**
Thallium	**7440-28-0**	**0.00131**		**5.41E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0486**
Zinc	7440-66-6	16.7	U	70.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061624-HM
Matrix: Air
Lab ID: 4062433-18
Sample Volume: 1981.266 m³
Filter ID:
Sampled: 06/16/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:29

Comments: Q8504301 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0173	SL, U	0.0317
Arsenic	7440-38-2	0.00686	U	0.00769
Barium	**7440-39-3**	**0.961**	FB-01	**0.879**
Beryllium	7440-41-7	2.35E-4	U	0.00263
Cadmium	7440-43-9	0.00149	U	0.0609
Chromium	7440-47-3	1.06	U	1.81
Cobalt	7440-48-4	0.0109	U	0.0358
Copper	7440-50-8	0.470	U	2.16
Lead	7439-92-1	0.0291	U	0.176
Manganese	7439-96-5	0.154	U	1.55
Molybdenum	7439-98-7	0.165	U	0.295
Nickel	7440-02-0	0.443	U	0.535
Selenium	7782-49-2	0.00186	U	0.00736
Thallium	7440-28-0	5.19E-5	U	4.84E-4
Vanadium	7440-62-2	0.0268	U	0.0434
Zinc	7440-66-6	5.64	U	63.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061724-HM
Matrix: Air
Lab ID: 4062433-19
Sample Volume: 2030.055 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:43

Comments: Q8504304 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0309**
Arsenic	**7440-38-2**	**3.89**		**0.00751**
Barium	**7440-39-3**	**12.0**		**0.858**
Beryllium	**7440-41-7**	**0.0463**		**0.00256**
Cadmium	7440-43-9	0.0266	U	0.0594
Chromium	**7440-47-3**	**9.06**		**1.77**
Cobalt	**7440-48-4**	**2.31**		**0.0349**
Copper	**7440-50-8**	**148**		**2.11**
Lead	**7439-92-1**	**0.572**		**0.172**
Manganese	**7439-96-5**	**54.3**		**1.51**
Molybdenum	**7439-98-7**	**8.23**		**0.288**
Nickel	**7440-02-0**	**6.24**		**0.523**
Selenium	**7782-49-2**	**0.302**		**0.00718**
Thallium	**7440-28-0**	**0.00208**		**4.72E-4**
Vanadium	**7440-62-2**	**5.88**		**0.0424**
Zinc	7440-66-6	18.9	U	61.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061724-HM
Matrix: Air
Lab ID: 4062433-20
Sample Volume: 2062.457 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 06:00

Comments: Q8504303 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.529**		**0.00739**
Barium	**7440-39-3**	**4.84**		**0.844**
Beryllium	**7440-41-7**	**0.0196**		**0.00252**
Cadmium	7440-43-9	0.0119	U	0.0585
Chromium	**7440-47-3**	**2.81**		**1.74**
Cobalt	**7440-48-4**	**0.514**		**0.0344**
Copper	**7440-50-8**	**49.8**		**2.07**
Lead	**7439-92-1**	**0.981**		**0.169**
Manganese	**7439-96-5**	**15.5**		**1.49**
Molybdenum	**7439-98-7**	**2.34**		**0.283**
Nickel	**7440-02-0**	**1.87**		**0.514**
Selenium	**7782-49-2**	**0.206**		**0.00707**
Thallium	**7440-28-0**	**0.00102**		**4.65E-4**
Vanadium	**7440-62-2**	**1.70**		**0.0417**
Zinc	7440-66-6	14.8	U	60.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061724-HM
Matrix: Air
Lab ID: 4062433-21
Sample Volume: 1944.798 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 06:16

Comments: Q8504300 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0619**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.247**		**0.00784**
Barium	**7440-39-3**	**3.09**		**0.895**
Beryllium	**7440-41-7**	**0.0206**		**0.00268**
Cadmium	7440-43-9	0.00822	U	0.0620
Chromium	**7440-47-3**	**2.35**		**1.85**
Cobalt	**7440-48-4**	**0.353**		**0.0365**
Copper	**7440-50-8**	**52.0**		**2.20**
Lead	**7439-92-1**	**0.472**		**0.179**
Manganese	**7439-96-5**	**9.21**		**1.58**
Molybdenum	**7439-98-7**	**2.34**		**0.300**
Nickel	**7440-02-0**	**1.22**		**0.545**
Selenium	**7782-49-2**	**0.149**		**0.00750**
Thallium	**7440-28-0**	**8.39E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0443**
Zinc	7440-66-6	11.5	U	64.3

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061724-HM
Matrix: Air
Lab ID: 4062433-22
Sample Volume: 1799.646 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 07:24

Comments: Q8504298 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0964**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.520**		**0.00847**
Barium	**7440-39-3**	**4.10**		**0.967**
Beryllium	**7440-41-7**	**0.0139**		**0.00289**
Cadmium	7440-43-9	0.0112	U	0.0670
Chromium	**7440-47-3**	**2.95**		**2.00**
Cobalt	**7440-48-4**	**0.454**		**0.0394**
Copper	**7440-50-8**	**30.3**		**2.38**
Lead	**7439-92-1**	**1.05**		**0.193**
Manganese	**7439-96-5**	**14.6**		**1.71**
Molybdenum	**7439-98-7**	**1.40**		**0.325**
Nickel	**7440-02-0**	**1.56**		**0.589**
Selenium	**7782-49-2**	**0.175**		**0.00810**
Thallium	**7440-28-0**	**0.00103**		**5.32E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0478**
Zinc	7440-66-6	15.3	U	69.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061824-HM
Matrix: Air
Lab ID: 4062433-23
Sample Volume: 2009.014 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 07:44

Comments: Q8504296 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.164**	SL	**0.0313**
Arsenic	**7440-38-2**	**4.08**		**0.00759**
Barium	**7440-39-3**	**7.51**		**0.867**
Beryllium	**7440-41-7**	**0.0199**		**0.00259**
Cadmium	7440-43-9	0.0247	U	0.0600
Chromium	**7440-47-3**	**5.39**		**1.79**
Cobalt	**7440-48-4**	**0.935**		**0.0353**
Copper	**7440-50-8**	**130**		**2.13**
Lead	**7439-92-1**	**0.498**		**0.173**
Manganese	**7439-96-5**	**23.8**		**1.53**
Molybdenum	**7439-98-7**	**7.10**		**0.291**
Nickel	**7440-02-0**	**2.70**		**0.528**
Selenium	**7782-49-2**	**0.214**		**0.00726**
Thallium	**7440-28-0**	**0.00125**		**4.77E-4**
Vanadium	**7440-62-2**	**2.61**		**0.0428**
Zinc	7440-66-6	17.5	U	62.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061824-HM
Matrix: Air
Lab ID: 4062433-24
Sample Volume: 2076.609 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:01

Comments: Q8504295 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0924**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.399**		**0.00734**
Barium	**7440-39-3**	**3.91**		**0.838**
Beryllium	**7440-41-7**	**0.0107**		**0.00251**
Cadmium	7440-43-9	0.00917	U	0.0581
Chromium	**7440-47-3**	**2.11**		**1.73**
Cobalt	**7440-48-4**	**0.323**		**0.0342**
Copper	**7440-50-8**	**60.4**		**2.06**
Lead	**7439-92-1**	**0.915**		**0.168**
Manganese	**7439-96-5**	**9.85**		**1.48**
Molybdenum	**7439-98-7**	**2.68**		**0.281**
Nickel	**7440-02-0**	**1.17**		**0.511**
Selenium	**7782-49-2**	**0.173**		**0.00702**
Thallium	**7440-28-0**	**7.53E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0414**
Zinc	7440-66-6	12.2	U	60.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061824-HM
Matrix: Air
Lab ID: 4062433-25
Sample Volume: 1935.086 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:20

Comments: Q8504328 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0739**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.482**		**0.00788**
Barium	**7440-39-3**	**3.84**		**0.900**
Beryllium	**7440-41-7**	**0.0236**		**0.00269**
Cadmium	7440-43-9	0.00957	U	0.0623
Chromium	**7440-47-3**	**2.62**		**1.86**
Cobalt	**7440-48-4**	**0.431**		**0.0367**
Copper	**7440-50-8**	**71.6**		**2.21**
Lead	**7439-92-1**	**0.931**		**0.180**
Manganese	**7439-96-5**	**11.0**		**1.59**
Molybdenum	**7439-98-7**	**2.77**		**0.302**
Nickel	**7440-02-0**	**1.38**		**0.548**
Selenium	**7782-49-2**	**0.176**		**0.00753**
Thallium	**7440-28-0**	**7.05E-4**		**4.95E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0445**
Zinc	7440-66-6	17.3	U	64.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061824-HM
Matrix: Air
Lab ID: 4062433-26
Sample Volume: 1779.509 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:54

Comments: Q8504327 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0954**	SL	**0.0353**
Arsenic	**7440-38-2**	**1.04**		**0.00857**
Barium	**7440-39-3**	**4.35**		**0.978**
Beryllium	**7440-41-7**	**0.0159**		**0.00293**
Cadmium	7440-43-9	0.0130	U	0.0677
Chromium	**7440-47-3**	**3.31**		**2.02**
Cobalt	**7440-48-4**	**0.529**		**0.0399**
Copper	**7440-50-8**	**30.3**		**2.40**
Lead	**7439-92-1**	**1.11**		**0.196**
Manganese	**7439-96-5**	**16.8**		**1.73**
Molybdenum	**7439-98-7**	**1.73**		**0.328**
Nickel	**7440-02-0**	**1.69**		**0.596**
Selenium	**7782-49-2**	**0.176**		**0.00819**
Thallium	**7440-28-0**	**9.67E-4**		**5.39E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0484**
Zinc	7440-66-6	18.1	U	70.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061824-HM
Matrix: Air
Lab ID: 4062433-27
Sample Volume: 2009.014 m³
Filter ID:
Sampled: 06/18/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:11

Comments: Q8504319 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0165	SL, U	0.0313
Arsenic	**7440-38-2**	**0.00945**	FB-01	**0.00759**
Barium	**7440-39-3**	**1.03**	FB-01	**0.867**
Beryllium	7440-41-7	2.70E-4	U	0.00259
Cadmium	7440-43-9	8.81E-4	U	0.0600
Chromium	7440-47-3	1.09	U	1.79
Cobalt	7440-48-4	0.0117	U	0.0353
Copper	7440-50-8	0.519	U	2.13
Lead	7439-92-1	0.0477	U	0.173
Manganese	7439-96-5	0.162	U	1.53
Molybdenum	7439-98-7	0.160	U	0.291
Nickel	7440-02-0	0.433	U	0.528
Selenium	7782-49-2	0.00113	U	0.00726
Thallium	7440-28-0	4.91E-5	U	4.77E-4
Vanadium	7440-62-2	0.0284	U	0.0428
Zinc	7440-66-6	5.58	U	62.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061924-HM
Matrix: Air
Lab ID: 4062433-28
Sample Volume: 1986.259 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:25

Comments: Q8504321 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.981**		**0.00768**
Barium	**7440-39-3**	**5.43**		**0.876**
Beryllium	**7440-41-7**	**0.0182**		**0.00262**
Cadmium	7440-43-9	0.0274	U	0.0607
Chromium	**7440-47-3**	**3.60**		**1.81**
Cobalt	**7440-48-4**	**0.708**		**0.0357**
Copper	**7440-50-8**	**163**		**2.15**
Lead	**7439-92-1**	**0.479**		**0.175**
Manganese	**7439-96-5**	**19.2**		**1.55**
Molybdenum	**7439-98-7**	**8.06**		**0.294**
Nickel	**7440-02-0**	**2.00**		**0.534**
Selenium	**7782-49-2**	**0.219**		**0.00734**
Thallium	**7440-28-0**	**0.00192**		**4.82E-4**
Vanadium	**7440-62-2**	**2.08**		**0.0433**
Zinc	7440-66-6	13.6	U	62.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061924-HM
Matrix: Air
Lab ID: 4062433-29
Sample Volume: 2085.338 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:41

Comments: Q8504320 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.524**		**0.00731**
Barium	**7440-39-3**	**5.76**		**0.835**
Beryllium	**7440-41-7**	**0.0181**		**0.00250**
Cadmium	7440-43-9	0.0157	U	0.0578
Chromium	**7440-47-3**	**2.70**		**1.72**
Cobalt	**7440-48-4**	**0.505**		**0.0340**
Copper	**7440-50-8**	**54.9**		**2.05**
Lead	**7439-92-1**	**1.41**		**0.167**
Manganese	**7439-96-5**	**16.1**		**1.47**
Molybdenum	**7439-98-7**	**2.14**		**0.280**
Nickel	**7440-02-0**	**1.79**		**0.509**
Selenium	**7782-49-2**	**0.214**		**0.00699**
Thallium	**7440-28-0**	**0.00199**		**4.60E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0413**
Zinc	7440-66-6	17.6	U	59.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061924-HM
Matrix: Air
Lab ID: 4062433-30
Sample Volume: 1968.708 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 10:00

Comments: Q8504318 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.358**		**0.00774**
Barium	**7440-39-3**	**5.16**		**0.884**
Beryllium	**7440-41-7**	**0.0224**		**0.00264**
Cadmium	7440-43-9	0.0218	U	0.0612
Chromium	**7440-47-3**	**3.30**		**1.83**
Cobalt	**7440-48-4**	**0.443**		**0.0360**
Copper	**7440-50-8**	**70.3**		**2.17**
Lead	**7439-92-1**	**0.814**		**0.177**
Manganese	**7439-96-5**	**13.3**		**1.56**
Molybdenum	**7439-98-7**	**2.97**		**0.297**
Nickel	**7440-02-0**	**1.43**		**0.539**
Selenium	**7782-49-2**	**0.204**		**0.00740**
Thallium	**7440-28-0**	**0.00188**		**4.87E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0437**
Zinc	7440-66-6	15.7	U	63.5

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REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061924-HM
Matrix: Air
Lab ID: 4062433-31
Sample Volume: 1789.959 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 11:10

Comments: Q8504317 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.778**		**0.00852**
Barium	**7440-39-3**	**6.46**		**0.973**
Beryllium	**7440-41-7**	**0.0234**		**0.00291**
Cadmium	7440-43-9	0.0306	U	0.0674
Chromium	**7440-47-3**	**4.66**		**2.01**
Cobalt	**7440-48-4**	**0.736**		**0.0396**
Copper	**7440-50-8**	**32.5**		**2.39**
Lead	**7439-92-1**	**1.62**		**0.195**
Manganese	**7439-96-5**	**25.9**		**1.72**
Molybdenum	**7439-98-7**	**1.85**		**0.326**
Nickel	**7440-02-0**	**2.18**		**0.593**
Selenium	**7782-49-2**	**0.261**		**0.00814**
Thallium	**7440-28-0**	**0.00260**		**5.35E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0481**
Zinc	7440-66-6	22.5	U	69.8

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REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Blank (2406089-CCB1)				Prepared & Analyzed: 06/25/24						
Antimony	3.62		ng/l							
Arsenic	4.89		ng/l							
Barium	3.38		ng/l							
Beryllium	-0.186		ng/l							U
Cadmium	0.590		ng/l							
Chromium	6.24		ng/l							
Cobalt	1.24		ng/l							
Copper	146		ng/l							
Lead	8.68		ng/l							
Manganese	16.8		ng/l							
Molybdenum	56.5		ng/l							
Nickel	5.22		ng/l							
Selenium	-6.96		ng/l							U
Thallium	0.567		ng/l							
Vanadium	-28.2		ng/l							U
Zinc	-45.1		ng/l							U
Calibration Blank (2406089-CCB2)				Prepared & Analyzed: 06/25/24						
Antimony	2.33		ng/l							
Arsenic	0.978		ng/l							
Barium	4.57		ng/l							
Beryllium	-0.463		ng/l							U
Cadmium	0.619		ng/l							
Chromium	7.95		ng/l							
Cobalt	1.53		ng/l							
Copper	133		ng/l							
Lead	8.03		ng/l							
Manganese	15.8		ng/l							
Molybdenum	20.7		ng/l							
Nickel	6.15		ng/l							
Selenium	-15.3		ng/l							U
Thallium	0.830		ng/l							
Vanadium	-25.9		ng/l							U
Zinc	-53.4		ng/l							U
Calibration Blank (2406089-CCB3)				Prepared & Analyzed: 06/25/24						
Antimony	0.520		ng/l							
Arsenic	4.09		ng/l							
Barium	1.57		ng/l							
Beryllium	-1.33		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Blank (2406089-CCB3) Contin				Prepared & Analyzed: 06/25/24						
Cadmium	0.144		ng/l							
Chromium	2.50		ng/l							
Cobalt	0.0990		ng/l							
Copper	68.2		ng/l							
Lead	2.40		ng/l							
Manganese	5.62		ng/l							
Molybdenum	7.66		ng/l							
Nickel	1.52		ng/l							
Selenium	13.2		ng/l							
Thallium	0.532		ng/l							
Vanadium	-21.9		ng/l							U
Zinc	-66.3		ng/l							U
Calibration Blank (2406089-CCB4)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.514		ng/l							
Arsenic	5.34		ng/l							
Barium	-0.578		ng/l							U
Beryllium	-1.96		ng/l							U
Cadmium	0.0710		ng/l							
Chromium	1.02		ng/l							
Cobalt	0.218		ng/l							
Copper	69.4		ng/l							
Lead	1.47		ng/l							
Manganese	5.23		ng/l							
Molybdenum	6.10		ng/l							
Nickel	2.36		ng/l							
Selenium	-0.839		ng/l							U
Thallium	0.782		ng/l							
Vanadium	-28.6		ng/l							U
Zinc	-64.5		ng/l							U
Calibration Blank (2406089-CCB5)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.764		ng/l							
Arsenic	4.42		ng/l							
Barium	0.335		ng/l							
Beryllium	-1.99		ng/l							U
Cadmium	0.0744		ng/l							
Chromium	0.0866		ng/l							
Cobalt	0.0156		ng/l							
Copper	47.3		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Blank (2406089-CCB5) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Lead	1.18		ng/l							
Manganese	3.64		ng/l							
Molybdenum	6.40		ng/l							
Nickel	4.38		ng/l							
Selenium	-4.01		ng/l							U
Thallium	0.754		ng/l							
Vanadium	-29.3		ng/l							U
Zinc	-78.9		ng/l							U
Calibration Blank (2406089-CCB6)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.344		ng/l							
Arsenic	6.62		ng/l							
Barium	-0.0552		ng/l							U
Beryllium	-2.15		ng/l							U
Cadmium	0.00203		ng/l							
Chromium	1.57		ng/l							
Cobalt	0.166		ng/l							
Copper	40.3		ng/l							
Lead	1.50		ng/l							
Manganese	3.29		ng/l							
Molybdenum	6.31		ng/l							
Nickel	2.65		ng/l							
Selenium	-1.83		ng/l							U
Thallium	0.933		ng/l							
Vanadium	-30.1		ng/l							U
Zinc	-56.0		ng/l							U
Calibration Blank (2406089-CCB7)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.278		ng/l							
Arsenic	9.03		ng/l							
Barium	1.98		ng/l							
Beryllium	-2.38		ng/l							U
Cadmium	0.0444		ng/l							
Chromium	0.592		ng/l							
Cobalt	0.121		ng/l							
Copper	44.6		ng/l							
Lead	1.64		ng/l							
Manganese	4.32		ng/l							
Molybdenum	5.61		ng/l							
Nickel	3.09		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Blank (2406089-CCB7) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Selenium	-5.93		ng/l							U
Thallium	0.941		ng/l							
Vanadium	-33.4		ng/l							U
Zinc	-23.8		ng/l							U
Calibration Check (2406089-CCV1)				Prepared & Analyzed: 06/25/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.8	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49400		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2406089-CCV2)				Prepared & Analyzed: 06/25/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	485		ng/l	500.00		97.1	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2406089 - B4F1103

Calibration Check (2406089-CCV3)				Prepared & Analyzed: 06/25/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2406089-CCV4)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	470		ng/l	500.00		94.1	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2406089-CCV5)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Check (2406089-CCV5) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	468		ng/l	500.00		93.6	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2406089-CCV6)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	466		ng/l	500.00		93.1	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2406089-CCV7)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5170		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Check (2406089-CCV7) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	532000		ng/l	500000		106	90-110			
Molybdenum	53400		ng/l	50000		107	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	465		ng/l	500.00		93.0	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2406089-HCV1)				Prepared & Analyzed: 06/25/24						
Antimony	39900		ng/l	40000		99.7	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	398000		ng/l	400000		99.6	95-105			
Beryllium	9940		ng/l	10000		99.4	95-105			
Cadmium	39800		ng/l	40000		99.6	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	98900		ng/l	100000		98.9	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	98700		ng/l	100000		98.7	95-105			
Nickel	237000		ng/l	240000		98.7	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Thallium	998		ng/l	1000.0		99.8	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	990000		ng/l	1.0000E6		99.0	95-105			
Initial Cal Blank (2406089-ICB1)				Prepared & Analyzed: 06/25/24						
Antimony	3.93		ng/l							
Arsenic	1.53		ng/l							
Barium	3.01		ng/l							
Beryllium	0.111		ng/l							
Cadmium	0.536		ng/l							
Chromium	6.79		ng/l							
Cobalt	1.20		ng/l							
Copper	208		ng/l							
Lead	9.29		ng/l							
Manganese	18.1		ng/l							
Molybdenum	29.3		ng/l							
Nickel	2.95		ng/l							

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Initial Cal Blank (2406089-ICB1) Continu				Prepared & Analyzed: 06/25/24						
Selenium	-12.8		ng/l							U
Thallium	0.249		ng/l							
Vanadium	-22.7		ng/l							U
Zinc	-25.4		ng/l							U
Initial Cal Check (2406089-ICV1)				Prepared & Analyzed: 06/25/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.0	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49400		ng/l	50000		98.9	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2406089-IFA1)				Prepared & Analyzed: 06/25/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	315000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Interference Check B (2406089-IFB1)				Prepared & Analyzed: 06/25/24						
Antimony	20000		ng/l	20000		100	80-120			
Arsenic	20100		ng/l	20000		101	80-120			
Barium	198000		ng/l	200000		99.2	80-120			
Beryllium	4840		ng/l	5000.0		96.9	80-120			
Cadmium	19300		ng/l	20000		96.7	80-120			
Chromium	229000		ng/l	240000		95.3	80-120			
Cobalt	48400		ng/l	50000		96.8	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.0	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	507000		ng/l	500000		101	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Selenium	18700		ng/l	20000		93.7	80-120			
Thallium	505		ng/l	500.00		101	80-120			
Vanadium	19100		ng/l	20000		95.4	80-120			
Zinc	456000		ng/l	500000		91.1	80-120			
Batch B4F2507 - ICP-MS Extraction										
Blank (B4F2507-BLK1)				Prepared & Analyzed: 06/25/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4F2507-BS1)				Prepared & Analyzed: 06/25/24						
Antimony	0.686	0.0386	ng/m³ Air	1.3829		49.6	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
LCS (B4F2507-BS1) Continued					Prepared & Analyzed: 06/25/24					
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.6	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.3	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.9	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.16	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.5	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	122	76.8	ng/m³ Air	82.975		147	80-120			
LCS (B4F2507-BS2)					Prepared & Analyzed: 06/25/24					
Antimony	0.699	0.0386	ng/m³ Air	1.3829		50.6	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.1	80-120			
Barium	28.0	1.07	ng/m³ Air	27.658		101	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	16.1	2.21	ng/m³ Air	13.829		116	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.5	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.12	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.3	80-120			
Thallium	0.130	5.89E-4	ng/m³ Air	0.13829		94.3	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.9	80-120			
Zinc	119	76.8	ng/m³ Air	82.975		143	80-120			
Duplicate (B4F2507-DUP1)		**Source: 4062433-08**			Prepared & Analyzed: 06/25/24					
Antimony	0.135	0.0357	ng/m³ Air		0.134			0.662	10	SL
Arsenic	2.71	0.00867	ng/m³ Air		2.57			5.39	10	
Barium	5.78	0.991	ng/m³ Air		5.83			0.870	10	
Beryllium	0.0265	0.00296	ng/m³ Air		0.0262			1.23	10	
Cadmium	ND	0.0686	ng/m³ Air		ND				10	U
Chromium	5.88	2.05	ng/m³ Air		5.48			7.11	10	
Cobalt	0.809	0.0404	ng/m³ Air		0.791			2.30	10	

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Duplicate (B4F2507-DUP1) Continued			**Source: 4062433-08**		Prepared & Analyzed: 06/25/24					
Copper	27.8	2.43	ng/m³ Air		26.6			4.38	10	
Lead	1.23	0.198	ng/m³ Air		1.23			0.517	10	
Manganese	29.6	1.75	ng/m³ Air		28.9			2.29	10	
Molybdenum	1.54	0.332	ng/m³ Air		1.41			8.79	10	
Nickel	2.59	0.604	ng/m³ Air		2.36			9.00	10	
Selenium	0.260	0.00829	ng/m³ Air		0.260			0.0226	10	
Thallium	0.00164	5.45E-4	ng/m³ Air		0.00156			4.60	10	
Vanadium	2.08	0.0490	ng/m³ Air		2.06			0.747	10	
Zinc	ND	71.1	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP2)			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Antimony	0.150	0.0309	ng/m³ Air		0.142			5.15	10	SL
Arsenic	1.15	0.00751	ng/m³ Air		1.02			11.5	10	
Barium	5.51	0.858	ng/m³ Air		5.28			4.16	10	
Beryllium	0.0161	0.00257	ng/m³ Air		0.0160			0.560	10	
Cadmium	ND	0.0594	ng/m³ Air		ND				10	U
Chromium	3.06	1.77	ng/m³ Air		2.60			16.2	10	
Cobalt	0.522	0.0350	ng/m³ Air		0.502			3.88	10	
Copper	58.8	2.11	ng/m³ Air		57.1			2.90	10	
Lead	1.58	0.172	ng/m³ Air		1.50			5.13	10	
Manganese	16.0	1.52	ng/m³ Air		15.2			5.63	10	
Molybdenum	2.58	0.288	ng/m³ Air		2.57			0.516	10	
Nickel	2.00	0.523	ng/m³ Air		1.88			5.88	10	
Selenium	0.186	0.00718	ng/m³ Air		0.183			1.63	10	
Thallium	0.00169	4.72E-4	ng/m³ Air		0.00194			14.1	10	
Vanadium	1.72	0.0424	ng/m³ Air		1.66			3.60	10	
Zinc	ND	61.6	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP3)			**Source: 4062433-14**		Prepared: 06/25/24 Analyzed: 06/26/24					
Antimony	0.0985	0.0317	ng/m³ Air		0.0982			0.383	10	SL
Arsenic	1.65	0.00769	ng/m³ Air		1.66			0.852	10	
Barium	4.73	0.879	ng/m³ Air		4.79			1.42	10	
Beryllium	0.0136	0.00263	ng/m³ Air		0.0137			0.857	10	
Cadmium	ND	0.0609	ng/m³ Air		ND				10	U
Chromium	3.38	1.81	ng/m³ Air		3.41			0.671	10	
Cobalt	0.581	0.0358	ng/m³ Air		0.583			0.331	10	
Copper	122	2.16	ng/m³ Air		122			0.0419	10	
Lead	0.463	0.176	ng/m³ Air		0.465			0.461	10	
Manganese	16.4	1.55	ng/m³ Air		16.4			0.367	10	
Molybdenum	7.89	0.295	ng/m³ Air		7.90			0.125	10	

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Duplicate (B4F2507-DUP3) Continued		**Source: 4062433-14**		Prepared: 06/25/24 Analyzed: 06/26/24						
Nickel	1.73	0.535	ng/m³ Air		1.73			0.333	10	
Selenium	0.191	0.00736	ng/m³ Air		0.197			3.30	10	
Thallium	0.00144	4.84E-4	ng/m³ Air		0.00145			0.181	10	
Vanadium	1.67	0.0434	ng/m³ Air		1.66			0.0847	10	
Zinc	ND	63.1	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP4)		**Source: 4062433-25**		Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.0738	0.0325	ng/m³ Air		0.0739			0.163	10	SL
Arsenic	0.491	0.00788	ng/m³ Air		0.482			1.75	10	
Barium	3.85	0.900	ng/m³ Air		3.84			0.238	10	
Beryllium	0.0242	0.00269	ng/m³ Air		0.0236			2.60	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	2.62	1.86	ng/m³ Air		2.62			0.172	10	
Cobalt	0.431	0.0367	ng/m³ Air		0.431			0.129	10	
Copper	71.7	2.21	ng/m³ Air		71.6			0.0827	10	
Lead	0.928	0.180	ng/m³ Air		0.931			0.265	10	
Manganese	11.1	1.59	ng/m³ Air		11.0			0.586	10	
Molybdenum	2.79	0.302	ng/m³ Air		2.77			0.663	10	
Nickel	1.38	0.548	ng/m³ Air		1.38			0.0279	10	
Selenium	0.178	0.00753	ng/m³ Air		0.176			1.01	10	
Thallium	8.02E-4	4.95E-4	ng/m³ Air		7.05E-4			12.9	10	
Vanadium	1.13	0.0445	ng/m³ Air		1.12			0.461	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Matrix Spike (B4F2507-MS1)		**Source: 4062433-08**		Prepared & Analyzed: 06/25/24						
Antimony	0.852	0.0357	ng/m³ Air	1.2802	0.134	56.1	80-120			SL
Arsenic	5.05	0.00867	ng/m³ Air	2.5605	2.57	97.0	80-120			
Barium	31.2	0.991	ng/m³ Air	25.605	5.83	98.9	80-120			
Beryllium	1.38	0.00296	ng/m³ Air	1.2802	0.0262	106	80-120			
Cadmium	1.28	0.0686	ng/m³ Air	1.2802	ND	99.7	80-120			
Chromium	18.2	2.05	ng/m³ Air	12.802	5.48	99.2	80-120			
Cobalt	2.08	0.0404	ng/m³ Air	1.2802	0.791	100	80-120			
Copper	53.2	2.43	ng/m³ Air	25.605	26.6	104	80-120			
Lead	13.9	0.198	ng/m³ Air	12.802	1.23	99.3	80-120			
Manganese	37.8	1.75	ng/m³ Air	7.6815	28.9	115	80-120			
Molybdenum	2.68	0.332	ng/m³ Air	1.2802	1.41	99.2	80-120			
Nickel	5.17	0.604	ng/m³ Air	2.5605	2.36	110	80-120			
Selenium	2.68	0.00829	ng/m³ Air	2.5605	0.260	94.4	80-120			
Thallium	0.122	5.45E-4	ng/m³ Air	0.12802	0.00156	94.1	80-120			
Vanadium	4.61	0.0490	ng/m³ Air	2.5605	2.06	99.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Matrix Spike (B4F2507-MS1) Continued **Source: 4062433-08** Prepared & Analyzed: 06/25/24										
Zinc	101	71.1	ng/m³ Air	76.815	ND	131	80-120			
Matrix Spike (B4F2507-MS2) **Source: 4062433-02** Prepared & Analyzed: 06/25/24										
Antimony	0.781	0.0309	ng/m³ Air	1.1088	0.142	57.6	80-120			SL
Arsenic	3.09	0.00751	ng/m³ Air	2.2176	1.02	93.2	80-120			
Barium	27.6	0.858	ng/m³ Air	22.176	5.28	100	80-120			
Beryllium	1.11	0.00257	ng/m³ Air	1.1088	0.0160	98.4	80-120			
Cadmium	1.12	0.0594	ng/m³ Air	1.1088	ND	101	80-120			
Chromium	13.5	1.77	ng/m³ Air	11.088	2.60	98.7	80-120			
Cobalt	1.56	0.0350	ng/m³ Air	1.1088	0.502	95.5	80-120			
Copper	81.6	2.11	ng/m³ Air	22.176	57.1	111	80-120			
Lead	12.4	0.172	ng/m³ Air	11.088	1.50	98.5	80-120			
Manganese	21.4	1.52	ng/m³ Air	6.6528	15.2	94.0	80-120			
Molybdenum	3.71	0.288	ng/m³ Air	1.1088	2.57	103	80-120			
Nickel	4.04	0.523	ng/m³ Air	2.2176	1.88	97.2	80-120			
Selenium	2.31	0.00718	ng/m³ Air	2.2176	0.183	96.0	80-120			
Thallium	0.104	4.72E-4	ng/m³ Air	0.11088	0.00194	92.2	80-120			
Vanadium	3.78	0.0424	ng/m³ Air	2.2176	1.66	95.5	80-120			
Zinc	94.5	61.6	ng/m³ Air	66.528	ND	142	80-120			
Matrix Spike Dup (B4F2507-MSD1) **Source: 4062433-08** Prepared & Analyzed: 06/25/24										
Antimony	0.845	0.0357	ng/m³ Air	1.2802	0.134	55.5	80-120	0.799	20	SL
Arsenic	5.14	0.00867	ng/m³ Air	2.5605	2.57	100	80-120	1.62	20	
Barium	31.7	0.991	ng/m³ Air	25.605	5.83	101	80-120	1.65	20	
Beryllium	1.28	0.00296	ng/m³ Air	1.2802	0.0262	97.6	80-120	7.79	20	
Cadmium	1.28	0.0686	ng/m³ Air	1.2802	ND	100	80-120	0.538	20	
Chromium	18.3	2.05	ng/m³ Air	12.802	5.48	99.9	80-120	0.492	20	
Cobalt	2.12	0.0404	ng/m³ Air	1.2802	0.791	104	80-120	2.10	20	
Copper	54.5	2.43	ng/m³ Air	25.605	26.6	109	80-120	2.37	20	
Lead	14.1	0.198	ng/m³ Air	12.802	1.23	100	80-120	0.940	20	
Manganese	39.1	1.75	ng/m³ Air	7.6815	28.9	133	80-120	3.42	20	QM-07
Molybdenum	2.74	0.332	ng/m³ Air	1.2802	1.41	103	80-120	1.96	20	
Nickel	5.20	0.604	ng/m³ Air	2.5605	2.36	111	80-120	0.595	20	
Selenium	2.70	0.00829	ng/m³ Air	2.5605	0.260	95.1	80-120	0.672	20	
Thallium	0.122	5.45E-4	ng/m³ Air	0.12802	0.00156	94.2	80-120	0.0955	20	
Vanadium	4.76	0.0490	ng/m³ Air	2.5605	2.06	105	80-120	3.25	20	
Zinc	100	71.1	ng/m³ Air	76.815	ND	130	80-120	0.533	20	
Matrix Spike Dup (B4F2507-MSD2) **Source: 4062433-02** Prepared & Analyzed: 06/25/24										
Antimony	0.779	0.0309	ng/m³ Air	1.1088	0.142	57.4	80-120	0.244	20	SL
Arsenic	3.13	0.00751	ng/m³ Air	2.2176	1.02	94.8	80-120	1.11	20	

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Matrix Spike Dup (B4F2507-MSD2) Contir				**Source: 4062433-02**		Prepared & Analyzed: 06/25/24				
Barium	27.4	0.858	ng/m³ Air	22.176	5.28	99.9	80-120	0.405	20	
Beryllium	1.12	0.00257	ng/m³ Air	1.1088	0.0160	99.5	80-120	1.08	20	
Cadmium	1.11	0.0594	ng/m³ Air	1.1088	ND	100	80-120	1.02	20	
Chromium	13.3	1.77	ng/m³ Air	11.088	2.60	96.7	80-120	1.65	20	
Cobalt	1.56	0.0350	ng/m³ Air	1.1088	0.502	95.5	80-120	0.0337	20	
Copper	84.7	2.11	ng/m³ Air	22.176	57.1	124	80-120	3.66	20	QM-07
Lead	12.4	0.172	ng/m³ Air	11.088	1.50	98.5	80-120	0.00781	20	
Manganese	21.1	1.52	ng/m³ Air	6.6528	15.2	89.7	80-120	1.33	20	
Molybdenum	3.79	0.288	ng/m³ Air	1.1088	2.57	110	80-120	2.23	20	
Nickel	3.95	0.523	ng/m³ Air	2.2176	1.88	93.4	80-120	2.13	20	
Selenium	2.30	0.00718	ng/m³ Air	2.2176	0.183	95.4	80-120	0.602	20	
Thallium	0.104	4.72E-4	ng/m³ Air	0.11088	0.00194	91.7	80-120	0.456	20	
Vanadium	3.80	0.0424	ng/m³ Air	2.2176	1.66	96.3	80-120	0.452	20	
Zinc	90.8	61.6	ng/m³ Air	66.528	ND	137	80-120	3.94	20	
Post Spike (B4F2507-PS1)				**Source: 4062433-08**		Prepared & Analyzed: 06/25/24				
Antimony	0.390	0.0357	ng/m³ Air	0.25605	0.134	99.9	75-125			SL
Arsenic	3.84	0.00867	ng/m³ Air	1.2802	2.57	99.2	75-125			
Barium	8.51	0.991	ng/m³ Air	2.5605	5.83	105	75-125			
Beryllium	0.272	0.00296	ng/m³ Air	0.25605	0.0262	96.1	75-125			
Cadmium	0.150	0.0686	ng/m³ Air	0.12802	ND	117	75-125			
Chromium	6.80	2.05	ng/m³ Air	1.2802	5.48	103	75-125			
Cobalt	1.05	0.0404	ng/m³ Air	0.25605	0.791	99.5	75-125			
Copper	40.0	2.43	ng/m³ Air	12.802	26.6	104	75-125			
Lead	27.2	0.198	ng/m³ Air	25.605	1.23	101	75-125			
Manganese	32.0	1.75	ng/m³ Air	2.5605	28.9	121	75-125			
Molybdenum	2.62	0.332	ng/m³ Air	1.2802	1.41	94.0	75-125			
Nickel	4.93	0.604	ng/m³ Air	2.5605	2.36	100	75-125			
Selenium	1.47	0.00829	ng/m³ Air	1.2802	0.260	94.8	75-125			
Thallium	0.0633	5.45E-4	ng/m³ Air	6.4013E-2	0.00156	96.5	75-125			
Vanadium	3.34	0.0490	ng/m³ Air	1.2802	2.06	100	75-125			
Zinc	ND	71.1	ng/m³ Air	25.605	ND		75-125			U
Post Spike (B4F2507-PS2)				**Source: 4062433-02**		Prepared & Analyzed: 06/25/24				
Antimony	0.368	0.0309	ng/m³ Air	0.22176	0.142	102	75-125			SL
Arsenic	2.10	0.00751	ng/m³ Air	1.1088	1.02	96.7	75-125			
Barium	7.55	0.858	ng/m³ Air	2.2176	5.28	102	75-125			
Beryllium	0.235	0.00257	ng/m³ Air	0.22176	0.0160	98.7	75-125			
Cadmium	0.126	0.0594	ng/m³ Air	0.11088	ND	114	75-125			
Chromium	3.69	1.77	ng/m³ Air	1.1088	2.60	98.5	75-125			

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Post Spike (B4F2507-PS2) Continued			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Cobalt	0.717	0.0350	ng/m³ Air	0.22176	0.502	96.8	75-125			
Copper	70.4	2.11	ng/m³ Air	11.088	57.1	120	75-125			
Lead	23.8	0.172	ng/m³ Air	22.176	1.50	101	75-125			
Manganese	17.5	1.52	ng/m³ Air	2.2176	15.2	106	75-125			
Molybdenum	3.64	0.288	ng/m³ Air	1.1088	2.57	96.1	75-125			
Nickel	4.08	0.523	ng/m³ Air	2.2176	1.88	99.0	75-125			
Selenium	1.24	0.00718	ng/m³ Air	1.1088	0.183	95.6	75-125			
Thallium	0.0538	4.72E-4	ng/m³ Air	5.5440E-2	0.00194	93.6	75-125			
Vanadium	2.77	0.0424	ng/m³ Air	1.1088	1.66	99.4	75-125			
Zinc	ND	61.6	ng/m³ Air	22.176	ND		75-125			U
Dilution Check (B4F2507-SRL1)			**Source: 4062433-08**		Prepared & Analyzed: 06/25/24					
Antimony	ND	0.179	ng/m³ Air		ND				10	SL, U
Arsenic	2.55	0.0434	ng/m³ Air		2.57			0.951	10	
Barium	5.82	4.95	ng/m³ Air		5.83			0.208	10	
Beryllium	0.0246	0.0148	ng/m³ Air		0.0262			6.21	10	
Cadmium	ND	0.343	ng/m³ Air		ND				10	U
Chromium	ND	10.2	ng/m³ Air		ND				10	U
Cobalt	0.802	0.202	ng/m³ Air		0.791			1.44	10	
Copper	27.2	12.2	ng/m³ Air		26.6			2.27	10	
Lead	1.19	0.991	ng/m³ Air		1.23			2.62	10	
Manganese	29.2	8.75	ng/m³ Air		28.9			0.993	10	
Molybdenum	ND	1.66	ng/m³ Air		ND				10	U
Nickel	ND	3.02	ng/m³ Air		ND				10	U
Selenium	0.245	0.0415	ng/m³ Air		0.260			6.10	10	
Thallium	0.00296	0.00273	ng/m³ Air		ND			62.0	10	
Vanadium	2.09	0.245	ng/m³ Air		2.06			1.53	10	
Zinc	ND	355	ng/m³ Air		ND				10	U
Dilution Check (B4F2507-SRL2)			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Antimony	ND	0.155	ng/m³ Air		ND				10	SL, U
Arsenic	1.04	0.0376	ng/m³ Air		1.02			1.32	10	
Barium	5.28	4.29	ng/m³ Air		5.28			0.00811	10	
Beryllium	0.0153	0.0128	ng/m³ Air		0.0160			4.09	10	
Cadmium	ND	0.297	ng/m³ Air		ND				10	U
Chromium	ND	8.86	ng/m³ Air		ND				10	U
Cobalt	0.504	0.175	ng/m³ Air		0.502			0.383	10	
Copper	58.8	10.5	ng/m³ Air		57.1			2.86	10	
Lead	1.47	0.858	ng/m³ Air		1.50			2.07	10	
Manganese	15.3	7.58	ng/m³ Air		15.2			1.10	10	

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REPORTED: 07/02/24 13:57
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Dilution Check (B4F2507-SRL2) Continue				**Source: 4062433-02**	Prepared & Analyzed: 06/25/24					
Molybdenum	2.61	1.44	ng/m³ Air		2.57			1.65	10	
Nickel	ND	2.61	ng/m³ Air		ND				10	U
Selenium	0.202	0.0359	ng/m³ Air		0.183			9.98	10	SRD-01
Thallium	0.00343	0.00236	ng/m³ Air		ND			55.4	10	
Vanadium	1.68	0.212	ng/m³ Air		1.66			0.883	10	
Zinc	ND	308	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/03/2024 and Shanna Vasser 07/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/13/2024 – 06/19/2024
Report No: 4062433

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-061424-HM, for barium in MFL-FB01-061624-HM, and for arsenic and barium in MFL-FB01-061824-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

June 20 through June 26, 2024

A Community Air Monitoring and Sampling Plan (CAMSP) was prepared to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling was performed from June 20 through June 26, 2024 at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from June 20 through June 26 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 µm per cubic meter (µm/m^3) screening level.

Air quality monitoring for fine particulate matter, with a particle size diameter of 2.5 µm or less ($PM_{2.5}$) is not included in the weekly reports. This monitoring is being performed by the Department of Health or EPA at six locations in Lahaina and can be accessed at: https://fire.airnow.gov/.

Air sampling was conducted daily at all four community locations in accordance with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to the Site Screening Action Levels (SSAL) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µm/m^3 screening level, as shown in **Table 1**.

Air Sampling Results

There were 28 samples collected for asbestos fibers at each of the monitoring locations throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory analytical sensitivity; results are presented in **Table 2**.

Low levels of metals were detected in ambient air samples at all community sampling locations. Although metals were detected, all concentrations were below the SSALs.

The laboratory data sheets for the asbestos and metal sample results are included in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour in a generally southeast direction. A summary of meteorological data is presented in **Table 3.**

Quality Control Summary

This section presents quality control measures conducted throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOP) are included in the CAMSP.

Air monitoring is conducted with Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer's procedures.

Asbestos samples are collected with Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
June 20 through June 26, 2024

Screening Level		TWA Results ($\mu g/m^{3)}$
6/20/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	6.0
6/21/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	4.8
6/22/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	6.2
6/23/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	9.0
	Lahaina Boys & Girls Club (AM-04)	4.9
6/24/2024	Leialii Hawaiian Homelands (AM-01)	9.7
	WW Pump Station #4 (AM-02)	8.4
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Boys & Girls Club (AM-04)	4.2
6/25/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	6.9
6/26/2024	Leialii Hawaiian Homelands (AM-01)	7.1
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	8.1

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
June 20 through June 26, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
6/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000137	0.00329	0.00922	0.0000362	ND	0.00695	0.00127	0.149	0.00130	0.0322	0.00646	0.00383	0.000251	0.00000263	0.00388	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000117	0.000507	0.00510	0.0000168	ND	0.00282	0.000539	0.0535	0.00106	0.0161	0.00219	0.00193	0.000203	0.00000209	0.00184	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000102	0.000735	0.0104	0.000160	ND	0.00956	0.00228	0.0726	0.00111	0.0507	0.00293	0.00541	0.000407	0.00000348	0.00537	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000112	0.000587	0.00599	0.0000192	ND	0.00340	0.000619	0.0472	0.00217	0.0205	0.00136	0.00199	0.000213	0.00000202	0.00180	ND
6/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000237	0.0134	0.0183	0.0000547	0.0000787	0.0115	0.00195	0.156	0.00247	0.0544	0.00539	0.00522	0.000294	0.00000273	0.00563	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000191	0.00121	0.0152	0.0000648	0.0000808	0.00629	0.00160	0.0718	0.00443	0.0627	0.00222	0.00391	0.000377	0.00000415	0.00564	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000100	0.000811	0.00768	0.0000819	ND	0.00596	0.00129	0.0736	0.00236	0.0309	0.00315	0.00330	0.000261	0.00000218	0.00316	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000273	0.000819	0.00644	0.0000214	ND	0.00400	0.000700	0.0365	0.00203	0.0217	0.00147	0.00220	0.000189	0.00000147	0.00187	ND
6/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000296	0.00881	0.0126	0.0000314	0.000100	0.00842	0.00121	0.129	0.00119	0.0321	0.00468	0.00378	0.000179	0.00000163	0.00359	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000102	0.00117	0.0145	0.0000645	0.000177	0.0114	0.00290	0.0514	0.00211	0.0695	0.00169	0.00806	0.000322	0.00000278	0.00828	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000507	0.000400	0.00362	0.0000229	ND	0.00295	0.000447	0.0668	0.000533	0.0122	0.00271	0.00146	0.000120	0.00000103	0.00124	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000115	0.000719	0.00636	0.0000269	ND	0.00455	0.000884	0.0460	0.00202	0.0267	0.00119	0.00256	0.000178	0.00000139	0.00233	ND
6/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000615	0.00148	0.0110	0.0000229	0.0000633	0.00781	0.00114	0.105	0.000711	0.0277	0.00471	0.00390	0.000191	0.00000168	0.00331	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000159	0.00107	0.00928	0.0000404	ND	0.00634	0.00145	0.0780	0.00245	0.0384	0.00262	0.00434	0.000253	0.00000215	0.00418	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000544	0.000418	0.00252	0.00000974	ND	0.00236	0.000268	0.0679	0.000458	0.00631	0.00277	0.00119	0.000127	0.000000846	0.000699	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000865	0.000352	0.00353	0.0000122	ND	0.00253	0.000395	0.0275	0.000652	0.0122	0.00148	0.00130	0.000159	0.00000110	0.00103	ND
6/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000257	0.00731	0.0122	0.0000398	ND	0.00823	0.00168	0.124	0.000769	0.0467	0.00400	0.00373	0.000266	0.00000222	0.00474	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000878	0.00890	0.0000388	0.0000908	0.00648	0.00118	0.0886	0.00226	0.0344	0.00217	0.00388	0.000241	0.00000176	0.00383	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000573	0.000320	0.00362	0.0000448	ND	0.00339	0.000604	0.0748	0.000460	0.0133	0.00300	0.00181	0.000176	0.000000846	0.00162	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000120	0.000705	0.00535	0.0000229	0.000287	0.00409	0.000784	0.0333	0.00132	0.0232	0.00143	0.00224	0.000169	0.00000140	0.00196	ND
6/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000335	0.00879	0.0162	0.0000433	0.000123	0.00937	0.00171	0.143	0.000807	0.0487	0.00470	0.00431	0.000276	0.00000237	0.00485	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000177	0.00106	0.0103	0.0000390	ND	0.00691	0.00149	0.0897	0.00272	0.0384	0.00250	0.00497	0.000246	0.00000237	0.00445	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000457	0.000272	0.00298	0.0000241	ND	0.00265	0.000420	0.0874	0.000406	0.00960	0.00315	0.00142	0.000139	0.000000788	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000879	0.000462	0.00469	0.0000137	ND	0.00308	0.000523	0.0377	0.00108	0.0168	0.00156	0.00173	0.000162	0.00000104	0.00138	ND
6/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000859	0.00157	0.0125	0.0000464	ND	0.00686	0.00173	0.138	0.00122	0.0499	0.00494	0.00395	0.000299	0.00000245	0.00476	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000132	0.000618	0.00503	0.0000146	ND	0.00250	0.000475	0.0963	0.000949	0.0141	0.00318	0.00165	0.000199	0.000000970	0.00156	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000837	0.000354	0.00425	0.0000423	ND	0.00310	0.000624	0.0896	0.000664	0.0161	0.00276	0.00191	0.000205	0.000000996	0.00178	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000151	0.000865	0.00690	0.0000263	ND	0.00409	0.000856	0.0445	0.00184	0.0289	0.00147	0.00243	0.000230	0.00000147	0.00235	ND
95% Upper Confidence Limit[2]		NA	0.000200	0.00306	0.0105	0.0000490	0.000193	0.00683	0.00142	0.0981	0.00193	0.0396	0.00349	0.00383	0.000250	0.00000220	0.00411	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
June 20 through June 26, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/20/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	81	58	760.9
6/20/2024	AM-02	WW Pump Station #4	1.3	SSE	80	62	762.9
6/20/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	60	753.6
6/20/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	62	762.4
6/21/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	82	57	760.8
6/21/2024	AM-02	WW Pump Station #4	1.3	SSE	80	64	762.8
6/21/2024	AM-03	Lahaina Intermediate School	1.3	SE	79	60	753.6
6/21/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	64	762.4
6/22/2024	AM-01	Leialii Hawaiian Homelands	2.4	E	80	62	760.5
6/22/2024	AM-02	WW Pump Station #4	1.6	ESE	81	62	762.4
6/22/2024	AM-03	Lahaina Intermediate School	1.7	E	80	61	753.2
6/22/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	80	63	762.0
6/23/2024	AM-01	Leialii Hawaiian Homelands	1.9	ESE	81	57	761.1
6/23/2024	AM-02	WW Pump Station #4	1.6	SE	80	61	763.0
6/23/2024	AM-03	Lahaina Intermediate School	1.5	E	80	58	753.8
6/23/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	79	62	762.6
6/24/2024	AM-01	Leialii Hawaiian Homelands	1.9	SE	81	57	761.2
6/24/2024	AM-02	WW Pump Station #4	1.5	SE	81	62	762.8
6/24/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	59	753.9
6/24/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	62	762.7
6/25/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	82	54	760.9
6/25/2024	AM-02	WW Pump Station #4	1.3	SSE	80	62	762.9
6/25/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	59	753.7
6/25/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	63	762.5
6/26/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	82	59	761.6
6/26/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	763.6
6/26/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	65	754.4
6/26/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	66	763.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062024-AB**		**Sample Description:**	**DL248495**
EMSL Sample Number:	042413056-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0001 **Customer Sample:** MFL-AM01-062024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A5	None Detected									
B2	C8	None Detected									
B2	G8	None Detected									
B3	B9	None Detected									
B3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062024-AB**		**Sample Description:**	**DL248424**
EMSL Sample Number:	042413056-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0002 **Customer Sample:** MFL-AM02-062024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B3	None Detected									
B5	D6	None Detected									
B5	G5	None Detected									
B6	F3	None Detected									
B6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062024-AB**		**Sample Description:**	**DL248412**
EMSL Sample Number:	042413056-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7310.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0003 **Customer Sample:** MFL-AM03-062024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J6	None Detected									
C2	G8	None Detected									
C2	C4	None Detected									
C3	I5	None Detected									
C3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062024-AB**		**Sample Description:**	**DL248406**
EMSL Sample Number:	042413056-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042413056**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0004 **Customer Sample:** MFL-AM04-062024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J2	None Detected									
C5	H4	None Detected									
C5	C2	None Detected									
C6	I3	None Detected									
C6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062024-AB** **Sample Description: DL248525**

EMSL Sample Number:	042413056-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0005 **Customer Sample:** MFL-FB01-062024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A5	None Detected									
D2	C7	None Detected									
D2	E3	None Detected									
D2	G6	None Detected									
D2	I7	None Detected									
D3	J10	None Detected									
D3	H10	None Detected									
D3	F8	None Detected									
D3	D6	None Detected									
D3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062124-AB**		**Sample Description:**	**DL248383**
EMSL Sample Number:	042413056-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0006 **Customer Sample:** MFL-AM01-062124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J5	None Detected									
D5	G1	None Detected									
D5	D6	None Detected									
D6	G5	None Detected									
D6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062124-AB** **Sample Description: DL248487**

EMSL Sample Number:	042413056-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5880.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0007 **Customer Sample:** MFL-AM02-062124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H2	None Detected									
E1	F3	None Detected									
E1	C7	None Detected									
E2	J7	None Detected									
E2	H7	None Detected									
E2	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062124-AB**		**Sample Description:**	**DL248433**
EMSL Sample Number:	042413056-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7236.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0008 **Customer Sample:** MFL-AM03-062124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J10	None Detected									
E5	G8	None Detected									
E5	C8	None Detected									
E6	B5	None Detected									
E6	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062124-AB**		**Sample Description:**	**DL248393**
EMSL Sample Number:	042413056-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7071.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0009 **Customer Sample:** MFL-AM04-062124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	G1	None Detected									
F2	D3	None Detected									
F3	H5	None Detected									
F3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062124-AB** **Sample Description: DL248422**

EMSL Sample Number:	042413056-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0010 **Customer Sample:** MFL-FB01-062124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A6	None Detected									
F5	C10	None Detected									
F5	E8	None Detected									
F5	G3	None Detected									
F5	I6	None Detected									
F6	A5	None Detected									
F6	C3	None Detected									
F6	E9	None Detected									
F6	G9	None Detected									
F6	I3	None Detected									

Abbreviations used:
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062224-AB**		**Sample Description:**	**DL248390**
EMSL Sample Number:	042413056-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0011 **Customer Sample:** MFL-AM01-062224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A7	None Detected									
G1	E5	None Detected									
G1	I3	None Detected									
G2	C4	None Detected									
G2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062224-AB** **Sample Description: DL248420**

EMSL Sample Number:	042413056-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0012 **Customer Sample:** MFL-AM02-062224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I4	None Detected									
G5	F7	None Detected									
G5	B9	None Detected									
G6	H8	None Detected									
G6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062224-AB** **Sample Description: DL248421**

EMSL Sample Number:	042413056-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7111.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0013 **Customer Sample:** MFL-AM03-062224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A6	None Detected									
H1	E9	None Detected									
H1	J5	None Detected									
H2	G4	None Detected									
H2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062224-AB**		**Sample Description:**	**DL248509**
EMSL Sample Number:	042413056-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7131.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0014 **Customer Sample:** MFL-AM04-062224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J6	None Detected									
H5	F7	None Detected									
H5	B3	None Detected									
H6	D9	None Detected									
H6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	07/05/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062224-AB** **Sample Description: DL248409**

EMSL Sample Number:	042413056-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0015 **Customer Sample:** MFL-FB01-062224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J9	None Detected									
I2	H5	None Detected									
I2	F3	None Detected									
I2	C6	None Detected									
I3	D3	None Detected									
I3	E7	None Detected									
I3	G6	None Detected									
I4	A4	None Detected									
I4	D8	None Detected									
I4	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062324-AB**		**Sample Description:**	**DL248391**
EMSL Sample Number:	042413056-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0016 **Customer Sample:** MFL-AM01-062324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I7	J5	None Detected									
I7	G7	None Detected									
I7	C4	None Detected									
I8	H3	None Detected									
I8	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062324-AB** **Sample Description: DL248399**

EMSL Sample Number:	042413056-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7120.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0017 **Customer Sample:** MFL-AM02-062324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I9	None Detected									
J1	H4	None Detected									
J1	D6	None Detected									
J2	J3	None Detected									
J2	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062324-AB**		**Sample Description:**	**DL248427**
EMSL Sample Number:	042413056-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	N/A			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0018 **Customer Sample:** MFL-AM03-062324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H8	None Detected									
J5	F8	None Detected									
J5	A9	None Detected									
J6	J5	None Detected									
J6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-062324-AB** **Sample Description: DL248407**

EMSL Sample Number:	042413056-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0019 **Customer Sample:** MFL-AM04-062324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A8	None Detected									
K1	E5	None Detected									
K1	I7	None Detected									
K2	I5	None Detected									
K2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062324-AB** **Sample Description:** **DL248402**

EMSL Sample Number:	042413056-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0020 **Customer Sample:** MFL-FB01-062324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J8	None Detected									
K5	H3	None Detected									
K5	E5	None Detected									
K5	A6	None Detected									
K6	I2	None Detected									
K6	F7	None Detected									
K6	B5	None Detected									
K7	B4	None Detected									
K7	C8	None Detected									
K7	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042413056-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413056
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413056-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A3	None Detected									
A1	C5	None Detected									
A1	E1	None Detected									
A1	G4	None Detected									
A1	I4	None Detected									
A2	I9	None Detected									
A2	G7	None Detected									
A2	E8	None Detected									
A2	C5	None Detected									
A2	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042413056

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413056

RECEIVED EMSL CINNAMINSON, NJ 24 JUN 26 PM 1:27

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. Kaye Sabalburo	Sampled By Signature:	E. Kaye Sabalburo
No. of Samples in Shipment	20		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
	MFL-AM01-062024-AB3	DL248495	7,159.824	06/20/24 1101
	MFL-AM02-062024-AB3	DL248424	7,168.464	06/20/24 1115
	MFL-AM03-062024-AB3	DL248412	7,310.594	06/20/24 1310
	MFL-AM04-062024-AB3	DL248406	7,268.688	06/20/24 1332
	MFL-FB01-062024-AB3	DL248525	0	06/20/24 1200
	MFL-AM01-062124-AB3	DL248383	7,201.613	06/21/24 1104
*	MFL-AM02-062124-AB3	DL248487	5,880.919	06/21/24 1122
	MFL-AM03-062124-AB3	DL248433	7,236.246	06/21/24 1302

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Note: MFL-AM02-062124-AB3 has a lower volume due to equipment issues & a shorter sample run time. Contact Chelsea Saber before running analysis.

All samples received acceptable for analysis.

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:	E. Kaye Sabalburo	Date/Time: 06/24/24 1100	Received by: FX
Date/Time	6/26/24 940		
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042413056

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413056

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-062124-AB	DL248393	7,071.442	06/21/24 1323
MFL-FB01-062124-AB	DL248422	0	06/21/24 1200
MFL-AM01-062224-AB	DL248390	7,124.583	06/22/24 1054
MFL-AM02-062224-AB	DL248420	7,205.972	06/22/24 1136
MFL-AM03-062224-AB	DL248421	7,111.883	06/22/24 1253
MFL-AM04-062224-AB	DL~~248~~ 248509 (EMS)	7,131.168	06/22/24 1327
MFL-FB01-062224-AB	DL248409	0	06/22/24 1200
MFL-AM01-062324-AB	DL~~248~~ 248391 (EMS)	7,135.344	06/23/24 1058
MFL-AM02-062324-AB	DL248399	7,120.781	06/23/24 1118
MFL-AM03-062324-AB	DL248427	7,259.760	06/23/24 1258
MFL-AM04-062324-AB	DL248407	7,124.676	06/23/24 1322
MFL-FB01-062324-AB	DL248402	0	06/23/24 1200

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EMSL
CINNAMINSON, NJ
24 JUN 26 PM 1:27

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 06/24/24 1400	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062424-AB**		**Sample Description:**	**DL248396**
EMSL Sample Number:	042413456-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0001 **Customer Sample:** MFL-AM01-062424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	C5	None Detected									
A5	D4	None Detected									
A6	J7	None Detected									
A6	I6	None Detected									
A7	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062424-AB**		**Sample Description:**	**DL248395**
EMSL Sample Number:	042413456-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7267.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0002 **Customer Sample:** MFL-AM02-062424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J7	None Detected									
B1	H6	None Detected									
B2	G3	None Detected									
B2	F4	None Detected									
B3	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062424-AB** **Sample Description: DL248414**

EMSL Sample Number:	042413456-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0003 **Customer Sample:** MFL-AM03-062424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J6	None Detected									
B5	I7	None Detected									
B6	C3	None Detected									
B6	D4	None Detected									
B7	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062424-AB**		**Sample Description:**	**DL248511**
EMSL Sample Number:	042413456-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0004 **Customer Sample:** MFL-AM04-062424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J9	None Detected									
C1	I8	None Detected									
C2	H5	None Detected									
C2	G4	None Detected									
C3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062424-AB** **Sample Description:** **DL248387**

EMSL Sample Number:	042413456-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0005 **Customer Sample:** MFL-FB01-062424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	H7	None Detected									
C5	G6	None Detected									
C6	A3	None Detected									
C6	B4	None Detected									
C7	D2	None Detected									
C7	D4	None Detected									
C8	J10	None Detected									
C8	J8	None Detected									
C8	I9	None Detected									
C8	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-062524-AB** **Sample Description: DL248386**

EMSL Sample Number:	042413456-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0006 **Customer Sample:** MFL-AM01-062524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	I7	None Detected									
D1	H6	None Detected									
D2	C8	None Detected									
D2	B9	None Detected									
D3	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062524-AB** **Sample Description: DL248380**

EMSL Sample Number:	042413456-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0007 **Customer Sample:** MFL-AM02-062524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B8	None Detected									
D5	C9	None Detected									
D6	A10	None Detected									
D6	E9	None Detected									
D7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062524-AB** **Sample Description: DL248499**

EMSL Sample Number:	042413456-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0008 **Customer Sample:** MFL-AM03-062524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H6	None Detected									
E1	E5	None Detected									
E1	C7	None Detected									
E2	B4	None Detected									
E2	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-062524-AB** **Sample Description: DL248480**

EMSL Sample Number:	042413456-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0009 **Customer Sample:** MFL-AM04-062524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B5	None Detected									
E5	E3	None Detected									
E6	G8	None Detected									
E6	D7	None Detected									
E6	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062524-AB** **Sample Description: DL248497**

EMSL Sample Number:	042413456-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0010 **Customer Sample:** MFL-FB01-062524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I7	None Detected									
F1	G8	None Detected									
F1	F4	None Detected									
F1	D5	None Detected									
F1	B7	None Detected									
F2	C4	None Detected									
F2	E7	None Detected									
F2	F9	None Detected									
F2	I7	None Detected									
F2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062624-AB**	**Sample Description:**	**DL248384**
EMSL Sample Number:	042413456-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7126.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0011 **Customer Sample:** MFL-AM01-062624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	G7	None Detected									
F5	D9	None Detected									
F5	B6	None Detected									
F6	B5	None Detected									
F6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/01/2024 10:00 AM
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062624-AB**		**Sample Description:**	**DL248381**
EMSL Sample Number:	042413456-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0012 **Customer Sample:** MFL-AM02-062624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	C7	None Detected									
G1	D4	None Detected									
G1	I4	None Detected									
G2	J7	None Detected									
G2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062624-AB**		**Sample Description:**	**DL248512**
EMSL Sample Number:	042413456-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0013 **Customer Sample:** MFL-AM03-062624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I7	None Detected									
G5	F8	None Detected									
G5	B7	None Detected									
G6	B3	None Detected									
G6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062624-AB**		**Sample Description:**	**DL248516**
EMSL Sample Number:	042413456-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0014 **Customer Sample:** MFL-AM04-062624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B6	None Detected									
H1	D3	None Detected									
H1	H2	None Detected									
H2	C4	None Detected									
H2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-062624-AB**		**Sample Description:**	**DL248529**
EMSL Sample Number:	042413456-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0015 **Customer Sample:** MFL-FB01-062624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A5	None Detected									
H5	D5	None Detected									
H5	G3	None Detected									
H5	G1	None Detected									
H5	H6	None Detected									
H6	J5	None Detected									
H6	H8	None Detected									
H6	F4	None Detected									
H6	D7	None Detected									
H6	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042413456-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413456-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B3	None Detected									
A1	B5	None Detected									
A1	C4	None Detected									
A2	D6	None Detected									
A2	D8	None Detected									
A2	E9	None Detected									
A3	J5	None Detected									
A3	I7	None Detected									
A4	H3	None Detected									
A4	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042413456

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042413456

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnASbulk@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 JUL -1 AM 10:55

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report:

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Langston Saldaña
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-062424-AB3	DL248396	7,163.280	06/24/24 1058
MFL-AM02-062424-AB3	DL248395	7,267.414	06/24/24 1117
MFL-AM03-062424-AB3	DL248414	7,279.040	06/24/24 1256
MFL-AM04-062424-AB3	DL248511	7,183.840	06/24/24 1313
MFL-FB01-062424-AB3	DL248387	0	06/24/24 1200
MFL-AM01-062524-AB3	DL248386	7,269.208	06/25/24 1058
MFL-AM02-062524-AB3	DL248380	7,241.862	06/25/24 1111
MFL-AM03-062524-AB3	DL248499	7,214.673	06/25/24 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15gk

Method of Shipment: FedEx
Relinquished by: Date/Time: 06/27/24 1600
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: Date/Time 6a 7-1-24
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042413456

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL -1 AM 10:55

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-062524-AIB	DL248480	7,283.366	06/25/24 1309
MFL-FB01-062524-AIB	DL248497	0	06/25/24 1200
MFL-AM01-062624-AIB	DL248384	7,126.263	06/26/24 1055
MFL-AM02-062624-AIB	DL248381	7,168.225	06/26/24 1113
MFL-AM03-062624-AIB	DL248512	7,122.528	06/26/24 1255
MFL-AM04-062624-AIB	DL248516	7,171.200	06/26/24 1312
MFL-FB01-062624-AIB	DL248529	0	06/26/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 06/27/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 09, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/01/24 15:07.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-062024-HM	4070134-01	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM02-062024-HM	4070134-02	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM03-062024-HM	4070134-03	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM04-062024-HM	4070134-04	Air	06/20/24 23:59	07/01/24 15:07
MFL-FB01-062024-HM	4070134-05	Air	06/20/24 00:00	07/01/24 15:07
MFL-AM01-062124-HM	4070134-06	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM02-062124-HM	4070134-07	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM03-062124-HM	4070134-08	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM04-062124-HM	4070134-09	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM01-062224-HM	4070134-10	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM02-062224-HM	4070134-11	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM03-062224-HM	4070134-12	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM04-062224-HM	4070134-13	Air	06/22/24 23:59	07/01/24 15:07
MFL-FB01-062224-HM	4070134-14	Air	06/22/24 00:00	07/01/24 15:07
MFL-AM01-062324-HM	4070134-15	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM02-062324-HM	4070134-16	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM03-062324-HM	4070134-17	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM04-062324-HM	4070134-18	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM01-062424-HM	4070134-19	Air	06/24/24 23:59	07/01/24 15:07
MFL-AM02-062424-HM	4070134-20	Air	06/24/24 23:59	07/01/24 15:07
MFL-AM03-062424-HM	4070134-21	Air	06/24/24 23:59	07/01/24 15:07

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-062424-HM	4070134-22	Air	06/24/24 23:59	07/01/24 15:07
MFL-FB01-062424-HM	4070134-23	Air	06/24/24 00:00	07/01/24 15:07
MFL-AM01-062524-HM	4070134-24	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM02-062524-HM	4070134-25	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM03-062524-HM	4070134-26	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM04-062524-HM	4070134-27	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM01-062624-HM	4070134-28	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM02-062624-HM	4070134-29	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM03-062624-HM	4070134-30	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM04-062624-HM	4070134-31	Air	06/26/24 23:59	07/01/24 15:07
MFL-FB01-062624-HM	4070134-32	Air	06/26/24 00:00	07/01/24 15:07
MFL-LB01-062624-HM	4070134-33	Air	06/26/24 00:00	07/01/24 15:07

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062024-HM
Matrix: Air
Lab ID: 4070134-01
Sample Volume: 2024.163 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 03:40

Comments: Q8504312 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0310**
Arsenic	**7440-38-2**	**3.29**		**0.00753**
Barium	**7440-39-3**	**9.22**		**0.860**
Beryllium	**7440-41-7**	**0.0362**		**0.00257**
Cadmium	7440-43-9	0.0299	U	0.0596
Chromium	**7440-47-3**	**6.95**		**1.78**
Cobalt	**7440-48-4**	**1.27**		**0.0350**
Copper	**7440-50-8**	**149**		**2.11**
Lead	**7439-92-1**	**1.30**		**0.172**
Manganese	**7439-96-5**	**32.2**		**1.52**
Molybdenum	**7439-98-7**	**6.46**		**0.289**
Nickel	**7440-02-0**	**3.83**		**0.524**
Selenium	**7782-49-2**	**0.251**	LJ, QX	**0.00720**
Thallium	**7440-28-0**	**0.00263**		**4.73E-4**
Vanadium	**7440-62-2**	**3.88**		**0.0425**
Zinc	7440-66-6	21.0	U	61.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062024-HM
Matrix: Air
Lab ID: 4070134-02
Sample Volume: 2110.652 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:00

Comments: Q8504311 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.507**		**0.00722**
Barium	**7440-39-3**	**5.10**		**0.825**
Beryllium	**7440-41-7**	**0.0168**		**0.00247**
Cadmium	7440-43-9	0.0167	U	0.0571
Chromium	**7440-47-3**	**2.82**		**1.70**
Cobalt	**7440-48-4**	**0.539**		**0.0336**
Copper	**7440-50-8**	**53.5**		**2.03**
Lead	**7439-92-1**	**1.06**		**0.165**
Manganese	**7439-96-5**	**16.1**		**1.46**
Molybdenum	**7439-98-7**	**2.19**		**0.277**
Nickel	**7440-02-0**	**1.93**		**0.503**
Selenium	**7782-49-2**	**0.203**	LJ, QX	**0.00691**
Thallium	**7440-28-0**	**0.00209**		**4.54E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0408**
Zinc	7440-66-6	14.2	U	59.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062024-HM
Matrix: Air
Lab ID: 4070134-03
Sample Volume: 1980.21 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:20

Comments: Q8504310 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.735**		**0.00770**
Barium	**7440-39-3**	**10.4**		**0.879**
Beryllium	**7440-41-7**	**0.160**		**0.00263**
Cadmium	7440-43-9	0.0310	U	0.0609
Chromium	**7440-47-3**	**9.56**		**1.82**
Cobalt	**7440-48-4**	**2.28**		**0.0358**
Copper	**7440-50-8**	**72.6**		**2.16**
Lead	**7439-92-1**	**1.11**		**0.176**
Manganese	**7439-96-5**	**50.7**		**1.55**
Molybdenum	**7439-98-7**	**2.93**		**0.295**
Nickel	**7440-02-0**	**5.41**		**0.536**
Selenium	**7782-49-2**	**0.407**	LJ, QX	**0.00736**
Thallium	**7440-28-0**	**0.00348**		**4.84E-4**
Vanadium	**7440-62-2**	**5.37**		**0.0435**
Zinc	7440-66-6	31.0	U	63.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062024-HM
Matrix: Air
Lab ID: 4070134-04
Sample Volume: 1769.249 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:40

Comments: Q8504340 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.587**		**0.00862**
Barium	**7440-39-3**	**5.99**		**0.984**
Beryllium	**7440-41-7**	**0.0192**		**0.00294**
Cadmium	7440-43-9	0.0197	U	0.0681
Chromium	**7440-47-3**	**3.40**		**2.03**
Cobalt	**7440-48-4**	**0.619**		**0.0401**
Copper	**7440-50-8**	**47.2**		**2.42**
Lead	**7439-92-1**	**2.17**		**0.197**
Manganese	**7439-96-5**	**20.5**		**1.74**
Molybdenum	**7439-98-7**	**1.36**		**0.330**
Nickel	**7440-02-0**	**1.99**		**0.600**
Selenium	**7782-49-2**	**0.213**	LJ, QX	**0.00824**
Thallium	**7440-28-0**	**0.00202**		**5.42E-4**
Vanadium	**7440-62-2**	**1.80**		**0.0486**
Zinc	7440-66-6	31.1	U	70.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062024-HM
Matrix: Air
Lab ID: 4070134-05
Sample Volume: 2024.163 m³
Filter ID:
Sampled: 06/20/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:00

Comments: Q8504332 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0149	U, SL	0.0310
Arsenic	7440-38-2	0.00512	U	0.00753
Barium	**7440-39-3**	**0.952**	FB-01	**0.860**
Beryllium	7440-41-7	ND	U	0.00257
Cadmium	7440-43-9	6.87E-4	U	0.0596
Chromium	7440-47-3	1.01	U	1.78
Cobalt	7440-48-4	0.00982	U	0.0350
Copper	7440-50-8	0.388	U	2.11
Lead	7439-92-1	0.0265	U	0.172
Manganese	7439-96-5	0.172	U	1.52
Molybdenum	7439-98-7	0.160	U	0.289
Nickel	7440-02-0	0.394	U	0.524
Selenium	7782-49-2	0.00297	LJ, QX, U	0.00720
Thallium	7440-28-0	1.14E-4	U	4.73E-4
Vanadium	7440-62-2	0.0148	U	0.0425
Zinc	7440-66-6	3.14	U	61.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062124-HM
Matrix: Air
Lab ID: 4070134-06
Sample Volume: 2005.647 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 00:47

Comments: Q8504339 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.237**	SL	**0.0313**
Barium	**7440-39-3**	**18.3**		**0.868**
Beryllium	**7440-41-7**	**0.0547**		**0.00260**
Cadmium	**7440-43-9**	**0.0787**		**0.0601**
Chromium	**7440-47-3**	**11.5**		**1.79**
Cobalt	**7440-48-4**	**1.95**		**0.0354**
Copper	**7440-50-8**	**156**		**2.13**
Lead	**7439-92-1**	**2.47**		**0.174**
Manganese	**7439-96-5**	**54.4**		**1.53**
Molybdenum	**7439-98-7**	**5.39**	QM-4X	**0.291**
Nickel	**7440-02-0**	**5.22**		**0.529**
Selenium	**7782-49-2**	**0.294**	LJ, QX, SRD-01	**0.00727**
Thallium	**7440-28-0**	**0.00273**		**4.78E-4**
Vanadium	**7440-62-2**	**5.63**		**0.0429**
Zinc	7440-66-6	39.4	U	62.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062124-HM
Matrix: Air
Lab ID: 4070134-06RE1
Sample Volume: 2005.647 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 17:02

Comments: Q8504339 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**13.4**	D, QM-4X	**0.0152**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062124-HM
Matrix: Air
Lab ID: 4070134-07
Sample Volume: 2089.734 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:14

Comments: Q8504337 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0301**
Arsenic	**7440-38-2**	**1.21**		**0.00730**
Barium	**7440-39-3**	**15.2**		**0.833**
Beryllium	**7440-41-7**	**0.0648**		**0.00249**
Cadmium	**7440-43-9**	**0.0808**		**0.0577**
Chromium	**7440-47-3**	**6.29**		**1.72**
Cobalt	**7440-48-4**	**1.60**		**0.0339**
Copper	**7440-50-8**	**71.8**		**2.05**
Lead	**7439-92-1**	**4.43**		**0.167**
Manganese	**7439-96-5**	**62.7**		**1.47**
Molybdenum	**7439-98-7**	**2.22**		**0.280**
Nickel	**7440-02-0**	**3.91**		**0.508**
Selenium	**7782-49-2**	**0.377**	LJ, QX	**0.00698**
Thallium	**7440-28-0**	**0.00415**		**4.59E-4**
Vanadium	**7440-62-2**	**5.64**		**0.0412**
Zinc	7440-66-6	39.4	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062124-HM
Matrix: Air
Lab ID: 4070134-08
Sample Volume: 1966.124 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:34

Comments: Q8504334 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.811**		**0.00775**
Barium	**7440-39-3**	**7.68**		**0.885**
Beryllium	**7440-41-7**	**0.0819**		**0.00265**
Cadmium	7440-43-9	0.0212	U	0.0613
Chromium	**7440-47-3**	**5.96**		**1.83**
Cobalt	**7440-48-4**	**1.29**		**0.0361**
Copper	**7440-50-8**	**73.6**		**2.18**
Lead	**7439-92-1**	**2.36**		**0.177**
Manganese	**7439-96-5**	**30.9**		**1.56**
Molybdenum	**7439-98-7**	**3.15**		**0.297**
Nickel	**7440-02-0**	**3.30**		**0.540**
Selenium	**7782-49-2**	**0.261**	LJ, QX	**0.00741**
Thallium	**7440-28-0**	**0.00218**		**4.87E-4**
Vanadium	**7440-62-2**	**3.16**		**0.0438**
Zinc	7440-66-6	25.4	U	63.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062124-HM
Matrix: Air
Lab ID: 4070134-09
Sample Volume: 1720.875 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:53

Comments: Q8504333 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.273**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.819**		**0.00886**
Barium	**7440-39-3**	**6.44**		**1.01**
Beryllium	**7440-41-7**	**0.0214**		**0.00303**
Cadmium	7440-43-9	0.0293	U	0.0701
Chromium	**7440-47-3**	**4.00**		**2.09**
Cobalt	**7440-48-4**	**0.700**		**0.0412**
Copper	**7440-50-8**	**36.5**		**2.49**
Lead	**7439-92-1**	**2.03**		**0.202**
Manganese	**7439-96-5**	**21.7**		**1.79**
Molybdenum	**7439-98-7**	**1.47**		**0.339**
Nickel	**7440-02-0**	**2.20**		**0.616**
Selenium	**7782-49-2**	**0.189**	LJ, QX	**0.00847**
Thallium	**7440-28-0**	**0.00147**		**5.57E-4**
Vanadium	**7440-62-2**	**1.87**		**0.0500**
Zinc	7440-66-6	29.0	U	72.6

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062224-HM
Matrix: Air
Lab ID: 4070134-10
Sample Volume: 1991.339 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 06:13

Comments: Q8504331 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.296**	SL	**0.0315**
Arsenic	**7440-38-2**	**8.81**		**0.00766**
Barium	**7440-39-3**	**12.6**		**0.874**
Beryllium	**7440-41-7**	**0.0314**		**0.00261**
Cadmium	**7440-43-9**	**0.100**		**0.0605**
Chromium	**7440-47-3**	**8.42**		**1.81**
Cobalt	**7440-48-4**	**1.21**		**0.0356**
Copper	**7440-50-8**	**129**		**2.15**
Lead	**7439-92-1**	**1.19**		**0.175**
Manganese	**7439-96-5**	**32.1**		**1.54**
Molybdenum	**7439-98-7**	**4.68**		**0.293**
Nickel	**7440-02-0**	**3.78**		**0.533**
Selenium	**7782-49-2**	**0.179**	LJ, QX	**0.00732**
Thallium	**7440-28-0**	**0.00163**		**4.81E-4**
Vanadium	**7440-62-2**	**3.59**		**0.0432**
Zinc	7440-66-6	42.6	U	62.7

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062224-HM
Matrix: Air
Lab ID: 4070134-11
Sample Volume: 2099.304 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 06:33

Comments: Q8504330 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0299**
Arsenic	**7440-38-2**	**1.17**		**0.00726**
Barium	**7440-39-3**	**14.5**		**0.829**
Beryllium	**7440-41-7**	**0.0645**		**0.00248**
Cadmium	**7440-43-9**	**0.177**		**0.0574**
Chromium	**7440-47-3**	**11.4**		**1.71**
Cobalt	**7440-48-4**	**2.90**		**0.0338**
Copper	**7440-50-8**	**51.4**		**2.04**
Lead	**7439-92-1**	**2.11**		**0.166**
Manganese	**7439-96-5**	**69.5**		**1.46**
Molybdenum	**7439-98-7**	**1.69**		**0.278**
Nickel	**7440-02-0**	**8.06**		**0.505**
Selenium	**7782-49-2**	**0.322**	LJ, QX	**0.00694**
Thallium	**7440-28-0**	**0.00278**		**4.56E-4**
Vanadium	**7440-62-2**	**8.28**		**0.0410**
Zinc	7440-66-6	33.0	U	59.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062224-HM
Matrix: Air
Lab ID: 4070134-12
Sample Volume: 1847.426 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 07:48

Comments: Q8504329 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0507**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.400**		**0.00825**
Barium	**7440-39-3**	**3.62**		**0.942**
Beryllium	**7440-41-7**	**0.0229**		**0.00282**
Cadmium	7440-43-9	0.00952	U	0.0653
Chromium	**7440-47-3**	**2.95**		**1.95**
Cobalt	**7440-48-4**	**0.447**		**0.0384**
Copper	**7440-50-8**	**66.8**		**2.32**
Lead	**7439-92-1**	**0.533**		**0.188**
Manganese	**7439-96-5**	**12.2**		**1.66**
Molybdenum	**7439-98-7**	**2.71**		**0.316**
Nickel	**7440-02-0**	**1.46**		**0.574**
Selenium	**7782-49-2**	**0.120**	LJ, QX	**0.00789**
Thallium	**7440-28-0**	**0.00103**		**5.19E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0466**
Zinc	7440-66-6	12.5	U	67.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062224-HM
Matrix: Air
Lab ID: 4070134-13
Sample Volume: 1792.187 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:04

Comments: Q8504346 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.719**		**0.00851**
Barium	**7440-39-3**	**6.36**		**0.971**
Beryllium	**7440-41-7**	**0.0269**		**0.00291**
Cadmium	7440-43-9	0.0208	U	0.0673
Chromium	**7440-47-3**	**4.55**		**2.01**
Cobalt	**7440-48-4**	**0.884**		**0.0396**
Copper	**7440-50-8**	**46.0**		**2.39**
Lead	**7439-92-1**	**2.02**		**0.194**
Manganese	**7439-96-5**	**26.7**		**1.72**
Molybdenum	**7439-98-7**	**1.19**		**0.326**
Nickel	**7440-02-0**	**2.56**		**0.592**
Selenium	**7782-49-2**	**0.178**	LJ, QX	**0.00813**
Thallium	**7440-28-0**	**0.00139**		**5.35E-4**
Vanadium	**7440-62-2**	**2.33**		**0.0480**
Zinc	7440-66-6	30.4	U	69.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062224-HM
Matrix: Air
Lab ID: 4070134-14
Sample Volume: 1991.339 m³
Filter ID:
Sampled: 06/22/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:23

Comments: Q8504345 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0199	SL, U	0.0315
Arsenic	**7440-38-2**	**0.0437**	FB-01	**0.00766**
Barium	**7440-39-3**	**1.02**	FB-01	**0.874**
Beryllium	7440-41-7	5.69E-6	U	0.00261
Cadmium	7440-43-9	0.00151	U	0.0605
Chromium	7440-47-3	1.09	U	1.81
Cobalt	7440-48-4	0.0199	U	0.0356
Copper	7440-50-8	0.721	U	2.15
Lead	7439-92-1	0.0400	U	0.175
Manganese	7439-96-5	0.372	U	1.54
Molybdenum	7439-98-7	0.154	U	0.293
Nickel	7440-02-0	0.420	U	0.533
Selenium	7782-49-2	0.00297	LJ, QX, U	0.00732
Thallium	7440-28-0	1.75E-4	U	4.81E-4
Vanadium	**7440-62-2**	**0.0468**	FB-01	**0.0432**
Zinc	7440-66-6	13.7	U	62.7

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062324-HM
Matrix: Air
Lab ID: 4070134-15
Sample Volume: 1959.803 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:38

Comments: Q8504343 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.615**	SL	**0.0320**
Barium	**7440-39-3**	**11.0**		**0.888**
Beryllium	**7440-41-7**	**0.0229**		**0.00266**
Cadmium	**7440-43-9**	**0.0633**		**0.0615**
Chromium	**7440-47-3**	**7.81**		**1.83**
Cobalt	**7440-48-4**	**1.14**		**0.0362**
Copper	**7440-50-8**	**105**		**2.18**
Lead	**7439-92-1**	**0.711**		**0.178**
Manganese	**7439-96-5**	**27.7**		**1.57**
Molybdenum	**7439-98-7**	**4.71**		**0.298**
Nickel	**7440-02-0**	**3.90**		**0.541**
Selenium	**7782-49-2**	**0.191**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**0.00168**		**4.89E-4**
Vanadium	**7440-62-2**	**3.31**		**0.0439**
Zinc	7440-66-6	27.6	U	63.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062324-HM
Matrix: Air
Lab ID: 4070134-15RE1
Sample Volume: 1959.803 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 19:02

Comments: Q8504343 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**1.48**	D	**0.0156**

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062324-HM
Matrix: Air
Lab ID: 4070134-16
Sample Volume: 1985.748 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:58

Comments: Q8504342 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0316**
Arsenic	**7440-38-2**	**1.07**		**0.00768**
Barium	**7440-39-3**	**9.28**		**0.877**
Beryllium	**7440-41-7**	**0.0404**		**0.00262**
Cadmium	7440-43-9	0.0282	U	0.0607
Chromium	**7440-47-3**	**6.34**		**1.81**
Cobalt	**7440-48-4**	**1.45**		**0.0357**
Copper	**7440-50-8**	**78.0**		**2.15**
Lead	**7439-92-1**	**2.45**		**0.175**
Manganese	**7439-96-5**	**38.4**		**1.55**
Molybdenum	**7439-98-7**	**2.62**		**0.294**
Nickel	**7440-02-0**	**4.34**		**0.534**
Selenium	**7782-49-2**	**0.253**	LJ, QX	**0.00734**
Thallium	**7440-28-0**	**0.00215**		**4.83E-4**
Vanadium	**7440-62-2**	**4.18**		**0.0433**
Zinc	7440-66-6	34.4	U	62.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062324-HM
Matrix: Air
Lab ID: 4070134-17
Sample Volume: 2009.181 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:15

Comments: Q8504341 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0544**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.418**		**0.00759**
Barium	**7440-39-3**	**2.52**		**0.866**
Beryllium	**7440-41-7**	**0.00974**		**0.00259**
Cadmium	7440-43-9	0.00688	U	0.0600
Chromium	**7440-47-3**	**2.36**		**1.79**
Cobalt	**7440-48-4**	**0.268**		**0.0353**
Copper	**7440-50-8**	**67.9**		**2.13**
Lead	**7439-92-1**	**0.458**		**0.173**
Manganese	**7439-96-5**	**6.31**		**1.53**
Molybdenum	**7439-98-7**	**2.77**		**0.291**
Nickel	**7440-02-0**	**1.19**		**0.528**
Selenium	**7782-49-2**	**0.127**	LJ, QX	**0.00726**
Thallium	**7440-28-0**	**8.46E-4**		**4.77E-4**
Vanadium	**7440-62-2**	**0.699**		**0.0428**
Zinc	7440-66-6	10.1	U	62.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062324-HM
Matrix: Air
Lab ID: 4070134-18
Sample Volume: 1739.005 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/02/24 20:48

Comments: Q8520670 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0865**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.352**		**0.00877**
Barium	**7440-39-3**	**3.53**		**1.00**
Beryllium	**7440-41-7**	**0.0122**		**0.00299**
Cadmium	7440-43-9	0.00923	U	0.0693
Chromium	**7440-47-3**	**2.53**		**2.07**
Cobalt	**7440-48-4**	**0.395**		**0.0408**
Copper	**7440-50-8**	**27.5**		**2.46**
Lead	**7439-92-1**	**0.652**		**0.200**
Manganese	**7439-96-5**	**12.2**		**1.77**
Molybdenum	**7439-98-7**	**1.48**		**0.336**
Nickel	**7440-02-0**	**1.30**		**0.610**
Selenium	**7782-49-2**	**0.159**	LJ, QX	**0.00838**
Thallium	**7440-28-0**	**0.00110**		**5.51E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0495**
Zinc	7440-66-6	15.7	U	71.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062424-HM
Matrix: Air
Lab ID: 4070134-19
Sample Volume: 1938.175 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:31

Comments: Q8520667 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.257**	SL	**0.0324**
Arsenic	**7440-38-2**	**7.31**		**0.00787**
Barium	**7440-39-3**	**12.2**		**0.898**
Beryllium	**7440-41-7**	**0.0398**		**0.00269**
Cadmium	7440-43-9	0.0612	U	0.0622
Chromium	**7440-47-3**	**8.23**		**1.86**
Cobalt	**7440-48-4**	**1.68**		**0.0366**
Copper	**7440-50-8**	**124**		**2.21**
Lead	**7439-92-1**	**0.769**		**0.180**
Manganese	**7439-96-5**	**46.7**		**1.59**
Molybdenum	**7439-98-7**	**4.00**		**0.301**
Nickel	**7440-02-0**	**3.73**		**0.547**
Selenium	**7782-49-2**	**0.266**	LJ, QX	**0.00752**
Thallium	**7440-28-0**	**0.00222**		**4.94E-4**
Vanadium	**7440-62-2**	**4.74**		**0.0444**
Zinc	7440-66-6	36.2	U	64.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062424-HM
Matrix: Air
Lab ID: 4070134-20
Sample Volume: 1975.429 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:50

Comments: Q8520666 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.878**		**0.00772**
Barium	**7440-39-3**	**8.90**		**0.881**
Beryllium	**7440-41-7**	**0.0388**		**0.00264**
Cadmium	**7440-43-9**	**0.0908**		**0.0610**
Chromium	**7440-47-3**	**6.48**		**1.82**
Cobalt	**7440-48-4**	**1.18**		**0.0359**
Copper	**7440-50-8**	**88.6**		**2.17**
Lead	**7439-92-1**	**2.26**		**0.176**
Manganese	**7439-96-5**	**34.4**		**1.56**
Molybdenum	**7439-98-7**	**2.17**		**0.296**
Nickel	**7440-02-0**	**3.88**		**0.537**
Selenium	**7782-49-2**	**0.241**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00176**		**4.85E-4**
Vanadium	**7440-62-2**	**3.83**		**0.0436**
Zinc	7440-66-6	39.9	U	63.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062424-HM
Matrix: Air
Lab ID: 4070134-21
Sample Volume: 2004.133 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 10:10

Comments: Q8520665 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0573**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.320**		**0.00761**
Barium	**7440-39-3**	**3.62**		**0.869**
Beryllium	**7440-41-7**	**0.0448**		**0.00260**
Cadmium	7440-43-9	0.00931	U	0.0602
Chromium	**7440-47-3**	**3.39**		**1.79**
Cobalt	**7440-48-4**	**0.604**		**0.0354**
Copper	**7440-50-8**	**74.8**		**2.14**
Lead	**7439-92-1**	**0.460**		**0.174**
Manganese	**7439-96-5**	**13.3**		**1.53**
Molybdenum	**7439-98-7**	**3.00**		**0.291**
Nickel	**7440-02-0**	**1.81**		**0.529**
Selenium	**7782-49-2**	**0.176**	LJ, QX	**0.00727**
Thallium	**7440-28-0**	**8.46E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0429**
Zinc	7440-66-6	12.0	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062424-HM
Matrix: Air
Lab ID: 4070134-22
Sample Volume: 1765.702 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 11:41

Comments: Q8520664 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.705**		**0.00863**
Barium	**7440-39-3**	**5.35**		**0.986**
Beryllium	**7440-41-7**	**0.0229**		**0.00295**
Cadmium	**7440-43-9**	**0.287**		**0.0683**
Chromium	**7440-47-3**	**4.09**		**2.04**
Cobalt	**7440-48-4**	**0.784**		**0.0402**
Copper	**7440-50-8**	**33.3**		**2.42**
Lead	**7439-92-1**	**1.32**		**0.197**
Manganese	**7439-96-5**	**23.2**		**1.74**
Molybdenum	**7439-98-7**	**1.43**		**0.331**
Nickel	**7440-02-0**	**2.24**		**0.601**
Selenium	**7782-49-2**	**0.169**	LJ, QX	**0.00826**
Thallium	**7440-28-0**	**0.00140**	QB-04	**5.43E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0487**
Zinc	7440-66-6	20.8	U	70.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062424-HM
Matrix: Air
Lab ID: 4070134-23
Sample Volume: 1938.175 m³
Filter ID:
Sampled: 06/24/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:01

Comments: Q8504353 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0164	SL, U	0.0324
Arsenic	7440-38-2	0.00785	U	0.00787
Barium	**7440-39-3**	**0.975**	FB-01	**0.898**
Beryllium	7440-41-7	ND	U	0.00269
Cadmium	7440-43-9	7.21E-4	U	0.0622
Chromium	7440-47-3	1.06	U	1.86
Cobalt	7440-48-4	0.0105	U	0.0366
Copper	7440-50-8	0.761	U	2.21
Lead	7439-92-1	0.0274	U	0.180
Manganese	7439-96-5	0.182	U	1.59
Molybdenum	7439-98-7	0.201	U	0.301
Nickel	7440-02-0	0.424	U	0.547
Selenium	7782-49-2	0.00232	LJ, QX, U	0.00752
Thallium	7440-28-0	1.34E-4	QB-04, U	4.94E-4
Vanadium	7440-62-2	0.0189	U	0.0444
Zinc	7440-66-6	6.24	U	64.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062524-HM
Matrix: Air
Lab ID: 4070134-24
Sample Volume: 1974.712 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:17

Comments: Q8504355 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.335**	SL	**0.0318**
Arsenic	**7440-38-2**	**8.79**		**0.00772**
Barium	**7440-39-3**	**16.2**		**0.882**
Beryllium	**7440-41-7**	**0.0433**		**0.00264**
Cadmium	**7440-43-9**	**0.123**		**0.0611**
Chromium	**7440-47-3**	**9.37**		**1.82**
Cobalt	**7440-48-4**	**1.71**		**0.0359**
Copper	**7440-50-8**	**143**		**2.17**
Lead	**7439-92-1**	**0.807**		**0.176**
Manganese	**7439-96-5**	**48.7**		**1.56**
Molybdenum	**7439-98-7**	**4.70**		**0.296**
Nickel	**7440-02-0**	**4.31**		**0.537**
Selenium	**7782-49-2**	**0.276**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00237**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**4.85**		**0.0436**
Zinc	7440-66-6	56.0	U	63.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062524-HM
Matrix: Air
Lab ID: 4070134-25
Sample Volume: 2067.21 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:37

Comments: Q8504354 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.177**	SL	**0.0304**
Arsenic	**7440-38-2**	**1.06**		**0.00737**
Barium	**7440-39-3**	**10.3**		**0.842**
Beryllium	**7440-41-7**	**0.0390**		**0.00252**
Cadmium	7440-43-9	0.0449	U	0.0583
Chromium	**7440-47-3**	**6.91**		**1.74**
Cobalt	**7440-48-4**	**1.49**		**0.0343**
Copper	**7440-50-8**	**89.7**		**2.07**
Lead	**7439-92-1**	**2.72**		**0.168**
Manganese	**7439-96-5**	**38.4**		**1.49**
Molybdenum	**7439-98-7**	**2.50**		**0.283**
Nickel	**7440-02-0**	**4.97**		**0.513**
Selenium	**7782-49-2**	**0.246**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**0.00237**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**4.45**		**0.0416**
Zinc	7440-66-6	38.1	U	60.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062524-HM
Matrix: Air
Lab ID: 4070134-26
Sample Volume: 2051.895 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:57

Comments: Q8504351 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0457**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.272**		**0.00743**
Barium	**7440-39-3**	**2.98**		**0.848**
Beryllium	**7440-41-7**	**0.0241**		**0.00254**
Cadmium	7440-43-9	0.00771	U	0.0588
Chromium	**7440-47-3**	**2.65**		**1.75**
Cobalt	**7440-48-4**	**0.420**		**0.0346**
Copper	**7440-50-8**	**87.4**		**2.09**
Lead	**7439-92-1**	**0.406**		**0.170**
Manganese	**7439-96-5**	**9.60**		**1.50**
Molybdenum	**7439-98-7**	**3.15**		**0.285**
Nickel	**7440-02-0**	**1.42**		**0.517**
Selenium	**7782-49-2**	**0.139**	LJ, QX	**0.00710**
Thallium	**7440-28-0**	**7.88E-4**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0419**
Zinc	7440-66-6	17.9	U	60.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062524-HM
Matrix: Air
Lab ID: 4070134-27
Sample Volume: 1790.733 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:14

Comments: Q8504348 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0879**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.462**		**0.00851**
Barium	**7440-39-3**	**4.69**		**0.972**
Beryllium	**7440-41-7**	**0.0137**		**0.00291**
Cadmium	7440-43-9	0.0168	U	0.0673
Chromium	**7440-47-3**	**3.08**		**2.01**
Cobalt	**7440-48-4**	**0.523**		**0.0396**
Copper	**7440-50-8**	**37.7**		**2.39**
Lead	**7439-92-1**	**1.08**		**0.194**
Manganese	**7439-96-5**	**16.8**		**1.72**
Molybdenum	**7439-98-7**	**1.56**		**0.326**
Nickel	**7440-02-0**	**1.73**		**0.592**
Selenium	**7782-49-2**	**0.162**	LJ, QX	**0.00814**
Thallium	**7440-28-0**	**0.00104**	QB-04	**5.35E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0481**
Zinc	7440-66-6	23.2	U	69.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062624-HM
Matrix: Air
Lab ID: 4070134-28
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:34

Comments: Q8504347 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0859**	SL	**0.0317**
Arsenic	**7440-38-2**	**1.57**		**0.00770**
Barium	**7440-39-3**	**12.5**		**0.879**
Beryllium	**7440-41-7**	**0.0464**		**0.00263**
Cadmium	7440-43-9	0.0270	U	0.0609
Chromium	**7440-47-3**	**6.86**		**1.82**
Cobalt	**7440-48-4**	**1.73**		**0.0358**
Copper	**7440-50-8**	**138**		**2.16**
Lead	**7439-92-1**	**1.22**		**0.176**
Manganese	**7439-96-5**	**49.9**		**1.55**
Molybdenum	**7439-98-7**	**4.94**		**0.295**
Nickel	**7440-02-0**	**3.95**		**0.536**
Selenium	**7782-49-2**	**0.299**	LJ, QX	**0.00736**
Thallium	**7440-28-0**	**0.00245**	QB-04	**4.84E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0435**
Zinc	7440-66-6	18.3	U	63.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062624-HM
Matrix: Air
Lab ID: 4070134-29
Sample Volume: 2013.069 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:53

Comments: Q8520661 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.618**		**0.00757**
Barium	**7440-39-3**	**5.03**		**0.865**
Beryllium	**7440-41-7**	**0.0146**		**0.00259**
Cadmium	7440-43-9	0.0187	U	0.0599
Chromium	**7440-47-3**	**2.50**		**1.79**
Cobalt	**7440-48-4**	**0.475**		**0.0352**
Copper	**7440-50-8**	**96.3**		**2.13**
Lead	**7439-92-1**	**0.949**		**0.173**
Manganese	**7439-96-5**	**14.1**		**1.53**
Molybdenum	**7439-98-7**	**3.18**		**0.290**
Nickel	**7440-02-0**	**1.65**		**0.527**
Selenium	**7782-49-2**	**0.199**	LJ, QX	**0.00724**
Thallium	**7440-28-0**	**9.70E-4**	QB-04	**4.76E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0428**
Zinc	7440-66-6	15.5	U	62.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062624-HM
Matrix: Air
Lab ID: 4070134-30
Sample Volume: 2002.699 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 14:32

Comments: Q8520655 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.354**		**0.00761**
Barium	**7440-39-3**	**4.25**		**0.869**
Beryllium	**7440-41-7**	**0.0423**		**0.00260**
Cadmium	7440-43-9	0.00874	U	0.0602
Chromium	**7440-47-3**	**3.10**		**1.80**
Cobalt	**7440-48-4**	**0.624**		**0.0354**
Copper	**7440-50-8**	**89.6**		**2.14**
Lead	**7439-92-1**	**0.664**		**0.174**
Manganese	**7439-96-5**	**16.1**		**1.54**
Molybdenum	**7439-98-7**	**2.76**		**0.292**
Nickel	**7440-02-0**	**1.91**		**0.530**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00728**
Thallium	**7440-28-0**	**9.96E-4**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0430**
Zinc	7440-66-6	13.7	U	62.4

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062624-HM
Matrix: Air
Lab ID: 4070134-31
Sample Volume: 1743.188 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:11

Comments: Q8520653 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0360**
Arsenic	**7440-38-2**	**0.865**		**0.00875**
Barium	**7440-39-3**	**6.90**		**0.999**
Beryllium	**7440-41-7**	**0.0263**		**0.00299**
Cadmium	7440-43-9	0.0207	U	0.0692
Chromium	**7440-47-3**	**4.09**		**2.06**
Cobalt	**7440-48-4**	**0.856**		**0.0407**
Copper	**7440-50-8**	**44.5**	LJ, QX	**2.45**
Lead	**7439-92-1**	**1.84**		**0.200**
Manganese	**7439-96-5**	**28.9**		**1.76**
Molybdenum	**7439-98-7**	**1.47**		**0.335**
Nickel	**7440-02-0**	**2.43**		**0.609**
Selenium	**7782-49-2**	**0.230**	LJ, QX	**0.00836**
Thallium	**7440-28-0**	**0.00147**	QB-04	**5.50E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0494**
Zinc	7440-66-6	23.5	U	71.7

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062624-HM
Matrix: Air
Lab ID: 4070134-32
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:30

Comments: Q8520647 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0196	SL, U	0.0317
Arsenic	7440-38-2	0.00608	U	0.00770
Barium	7440-39-3	0.798	U	0.879
Beryllium	7440-41-7	ND	U	0.00263
Cadmium	7440-43-9	8.07E-4	U	0.0609
Chromium	7440-47-3	0.829	U	1.82
Cobalt	7440-48-4	0.0104	U	0.0358
Copper	7440-50-8	1.03	LJ, QX, U	2.16
Lead	7439-92-1	0.0476	U	0.176
Manganese	7439-96-5	0.193	U	1.55
Molybdenum	7439-98-7	0.160	U	0.295
Nickel	7440-02-0	0.381	U	0.536
Selenium	7782-49-2	9.37E-4	LJ, QX, U	0.00736
Thallium	7440-28-0	1.51E-4	QB-04, U	4.84E-4
Vanadium	7440-62-2	0.0132	U	0.0435
Zinc	7440-66-6	3.66	U	63.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-062624-HM
Matrix: Air
Lab ID: 4070134-33
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:47

Comments: Q8520643 - Lot Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0197	SL, U	0.0317
Arsenic	**7440-38-2**	**0.00800**	FB-01	**0.00770**
Barium	7440-39-3	0.767	U	0.879
Beryllium	7440-41-7	ND	U	0.00263
Cadmium	7440-43-9	5.81E-4	U	0.0609
Chromium	7440-47-3	0.835	U	1.82
Cobalt	7440-48-4	0.0103	U	0.0358
Copper	7440-50-8	0.353	LJ, QX, U	2.16
Lead	7439-92-1	0.0236	U	0.176
Manganese	7439-96-5	0.162	U	1.55
Molybdenum	7439-98-7	0.152	U	0.295
Nickel	7440-02-0	0.379	U	0.536
Selenium	7782-49-2	0.00122	LJ, QX, U	0.00736
Thallium	7440-28-0	1.26E-4	QB-04, U	4.84E-4
Vanadium	7440-62-2	0.0141	U	0.0435
Zinc	7440-66-6	4.33	U	63.1

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Blank (2407015-CCB1)				Prepared & Analyzed: 07/02/24						
Antimony	0.397		ng/l							
Arsenic	1.26		ng/l							
Barium	2.48		ng/l							
Beryllium	-2.73		ng/l							U
Cadmium	0.328		ng/l							
Chromium	1.70		ng/l							
Cobalt	0.439		ng/l							
Copper	71.5		ng/l							
Lead	4.54		ng/l							
Manganese	7.05		ng/l							
Molybdenum	24.4		ng/l							
Nickel	-3.20		ng/l							U
Selenium	-4.86		ng/l							LJ, QX, U
Thallium	1.02		ng/l							
Vanadium	30.6		ng/l							
Zinc	-53.2		ng/l							U
Calibration Blank (2407015-CCB2)				Prepared & Analyzed: 07/02/24						
Antimony	0.147		ng/l							
Arsenic	-0.553		ng/l							U
Barium	1.38		ng/l							
Beryllium	-3.58		ng/l							U
Cadmium	0.0862		ng/l							
Chromium	0.0157		ng/l							
Cobalt	0.186		ng/l							
Copper	66.8		ng/l							
Lead	1.57		ng/l							
Manganese	2.95		ng/l							
Molybdenum	3.77		ng/l							
Nickel	-3.03		ng/l							U
Selenium	-1.87		ng/l							LJ, QX, U
Thallium	0.785		ng/l							
Vanadium	19.6		ng/l							
Zinc	-41.9		ng/l							U
Calibration Blank (2407015-CCB3)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.157		ng/l							
Arsenic	4.10		ng/l							
Barium	2.54		ng/l							
Beryllium	-3.66		ng/l							U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Blank (2407015-CCB3) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Cadmium	0.0736		ng/l							
Chromium	2.61		ng/l							
Cobalt	0.382		ng/l							
Copper	86.8		ng/l							
Lead	2.48		ng/l							
Manganese	4.83		ng/l							
Molybdenum	5.93		ng/l							
Nickel	-0.335		ng/l							U
Selenium	-1.64		ng/l							LJ, QX, U
Thallium	1.26		ng/l							
Vanadium	11.1		ng/l							
Zinc	-51.3		ng/l							U
Calibration Blank (2407015-CCB4)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	-0.0191		ng/l							U
Arsenic	6.79		ng/l							
Barium	2.09		ng/l							
Beryllium	-4.19		ng/l							U
Cadmium	0.0989		ng/l							
Chromium	1.79		ng/l							
Cobalt	0.294		ng/l							
Copper	74.6		ng/l							
Lead	1.95		ng/l							
Manganese	4.35		ng/l							
Molybdenum	6.45		ng/l							
Nickel	0.136		ng/l							
Selenium	-8.82		ng/l							LJ, QX, U
Thallium	0.810		ng/l							
Vanadium	-4.79		ng/l							U
Zinc	-52.4		ng/l							U
Calibration Blank (2407015-CCB5)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.189		ng/l							
Arsenic	-0.0274		ng/l							U
Barium	2.40		ng/l							
Beryllium	-4.13		ng/l							U
Cadmium	0.223		ng/l							
Chromium	1.89		ng/l							
Cobalt	0.396		ng/l							
Copper	69.9		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Blank (2407015-CCB5) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Lead	2.03		ng/l							
Manganese	3.66		ng/l							
Molybdenum	5.69		ng/l							
Nickel	-3.20		ng/l							U
Selenium	0.152		ng/l							LJ, QX
Thallium	0.934		ng/l							
Vanadium	-28.3		ng/l							U
Zinc	37.2		ng/l							
Calibration Blank (2407015-CCB6)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.516		ng/l							
Arsenic	-2.03		ng/l							U
Barium	5.24		ng/l							
Beryllium	-4.61		ng/l							U
Cadmium	0.339		ng/l							
Chromium	4.08		ng/l							
Cobalt	0.894		ng/l							
Copper	139		ng/l							
Lead	4.46		ng/l							
Manganese	11.3		ng/l							
Molybdenum	10.8		ng/l							
Nickel	1.28		ng/l							
Selenium	-2.45		ng/l							LJ, QX, U
Thallium	1.41		ng/l							QB-04
Vanadium	-40.8		ng/l							U
Zinc	-41.1		ng/l							U
Calibration Blank (2407015-CCB7)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.424		ng/l							
Arsenic	0.485		ng/l							
Barium	4.91		ng/l							
Beryllium	-4.14		ng/l							U
Cadmium	0.389		ng/l							
Chromium	2.90		ng/l							
Cobalt	0.805		ng/l							
Copper	106		ng/l							
Lead	3.84		ng/l							
Manganese	8.93		ng/l							
Molybdenum	9.73		ng/l							
Nickel	-1.73		ng/l							U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Blank (2407015-CCB7) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Selenium	11.3		ng/l							LJ, QX
Thallium	1.56		ng/l							QB-04
Vanadium	-49.7		ng/l							U
Zinc	-38.1		ng/l							U
Calibration Check (2407015-CCV1)				Prepared & Analyzed: 07/02/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.1	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2407015-CCV2)				Prepared & Analyzed: 07/02/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Check (2407015-CCV3)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			LJ, QX
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2407015-CCV4)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2407015-CCV5)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Check (2407015-CCV5) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	53500		ng/l	50000		107	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	473		ng/l	500.00		94.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2407015-CCV6)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.21E6		ng/l	2.0000E6		110	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	536000		ng/l	500000		107	90-110			
Molybdenum	54300		ng/l	50000		109	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20600		ng/l	20000		103	90-110			LJ, QX
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	21000		ng/l	20000		105	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2407015-CCV7)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	258000		ng/l	240000		108	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.22E6		ng/l	2.0000E6		111	90-110			LJ, QX

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Check (2407015-CCV7) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Lead	208000		ng/l	200000		104	90-110			
Manganese	529000		ng/l	500000		106	90-110			
Molybdenum	54900		ng/l	50000		110	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	540000		ng/l	500000		108	90-110			
High Cal Check (2407015-HCV1)				Prepared & Analyzed: 07/02/24						
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40200		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.8	95-105			
Beryllium	9910		ng/l	10000		99.1	95-105			
Cadmium	40300		ng/l	40000		101	95-105			
Chromium	488000		ng/l	480000		102	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	4.00E6		ng/l	4.0000E6		100	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	241000		ng/l	240000		101	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			LJ, QX
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	40600		ng/l	40000		102	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2407015-ICB1)				Prepared & Analyzed: 07/02/24						
Antimony	0.308		ng/l							
Arsenic	-3.65		ng/l							U
Barium	1.02		ng/l							
Beryllium	-2.18		ng/l							U
Cadmium	0.138		ng/l							
Chromium	-0.0522		ng/l							U
Cobalt	0.155		ng/l							
Copper	159		ng/l							
Lead	2.23		ng/l							
Manganese	7.80		ng/l							
Molybdenum	7.85		ng/l							
Nickel	-4.51		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Initial Cal Blank (2407015-ICB1) Continu				Prepared & Analyzed: 07/02/24						
Selenium	9.11		ng/l							LJ, QX
Thallium	0.878		ng/l							
Vanadium	46.2		ng/l							
Zinc	-54.6		ng/l							U
Initial Cal Check (2407015-ICV1)				Prepared & Analyzed: 07/02/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.0	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5170		ng/l	5000.0		103	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	48700		ng/l	50000		97.3	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	49700		ng/l	50000		99.5	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	500		ng/l	500.00		99.9	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Interference Check A (2407015-IFA1)				Prepared & Analyzed: 07/02/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Interference Check B (2407015-IFB1)				Prepared & Analyzed: 07/02/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20300		ng/l	20000		101	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4940		ng/l	5000.0		98.8	80-120			
Cadmium	19900		ng/l	20000		99.4	80-120			
Chromium	235000		ng/l	240000		97.9	80-120			
Cobalt	49200		ng/l	50000		98.4	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.2	80-120			
Lead	209000		ng/l	200000		104	80-120			
Manganese	514000		ng/l	500000		103	80-120			
Molybdenum	372000		ng/l	350000		106	80-120			
Nickel	117000		ng/l	120000		97.1	80-120			
Selenium	18800		ng/l	20000		94.0	80-120			LJ, QX
Thallium	521		ng/l	500.00		104	80-120			
Vanadium	19500		ng/l	20000		97.3	80-120			
Zinc	469000		ng/l	500000		93.8	80-120			
Batch B4G0205 - ICP-MS Extraction										
Blank (B4G0205-BLK1)				Prepared & Analyzed: 07/02/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G0205-BS1)				Prepared & Analyzed: 07/02/24						
Antimony	0.642	0.0386	ng/m³ Air	1.3829		46.4	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.9	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
LCS (B4G0205-BS1) Continued					Prepared & Analyzed: 07/02/24					
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.9	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.2	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.59	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.64	0.00896	ng/m³ Air	2.7658		95.5	80-120			LJ, QX
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.1	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	96.0	76.8	ng/m³ Air	82.975		116	80-120			
LCS (B4G0205-BS2)					Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.652	0.0386	ng/m³ Air	1.3829		47.2	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.6	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.6	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.3	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.50	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		96.9	80-120			LJ, QX
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			
Vanadium	2.82	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	95.1	76.8	ng/m³ Air	82.975		115	80-120			
Duplicate (B4G0205-DUP1)		**Source: 4070134-18**			Prepared & Analyzed: 07/02/24					
Antimony	0.108	0.0361	ng/m³ Air		0.0865			22.5	10	SL
Arsenic	0.342	0.00877	ng/m³ Air		0.352			2.71	10	
Barium	3.72	1.00	ng/m³ Air		3.53			5.09	10	
Beryllium	0.0122	0.00299	ng/m³ Air		0.0122			0.0353	10	
Cadmium	ND	0.0693	ng/m³ Air		ND				10	U
Chromium	2.51	2.07	ng/m³ Air		2.53			0.607	10	
Cobalt	0.406	0.0408	ng/m³ Air		0.395			2.85	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Duplicate (B4G0205-DUP1) Continued			**Source: 4070134-18**		Prepared & Analyzed: 07/02/24					
Copper	30.7	2.46	ng/m³ Air		27.5			11.0	10	
Lead	0.783	0.200	ng/m³ Air		0.652			18.3	10	
Manganese	12.7	1.77	ng/m³ Air		12.2			3.68	10	
Molybdenum	1.45	0.336	ng/m³ Air		1.48			2.61	10	
Nickel	1.32	0.610	ng/m³ Air		1.30			1.98	10	
Selenium	0.144	0.00838	ng/m³ Air		0.159			9.77	10	LJ, QX
Thallium	0.00103	5.51E-4	ng/m³ Air		0.00110			6.98	10	
Vanadium	1.04	0.0495	ng/m³ Air		1.03			0.734	10	
Zinc	ND	71.9	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP3)			**Source: 4070134-21**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.0565	0.0313	ng/m³ Air		0.0573			1.39	10	SL
Arsenic	0.318	0.00761	ng/m³ Air		0.320			0.798	10	
Barium	3.61	0.869	ng/m³ Air		3.62			0.370	10	
Beryllium	0.0465	0.00260	ng/m³ Air		0.0448			3.74	10	
Cadmium	ND	0.0602	ng/m³ Air		ND				10	U
Chromium	3.39	1.79	ng/m³ Air		3.39			0.232	10	
Cobalt	0.602	0.0354	ng/m³ Air		0.604			0.328	10	
Copper	74.6	2.14	ng/m³ Air		74.8			0.310	10	
Lead	0.461	0.174	ng/m³ Air		0.460			0.232	10	
Manganese	13.2	1.53	ng/m³ Air		13.3			0.161	10	
Molybdenum	3.01	0.291	ng/m³ Air		3.00			0.414	10	
Nickel	1.79	0.529	ng/m³ Air		1.81			0.614	10	
Selenium	0.163	0.00727	ng/m³ Air		0.176			8.10	10	LJ, QX
Thallium	9.60E-4	4.78E-4	ng/m³ Air		8.46E-4			12.6	10	
Vanadium	1.61	0.0429	ng/m³ Air		1.62			0.288	10	
Zinc	ND	62.3	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP4)			**Source: 4070134-29**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.133	0.0312	ng/m³ Air		0.132			0.982	10	SL
Arsenic	0.618	0.00757	ng/m³ Air		0.618			0.00746	10	
Barium	5.11	0.865	ng/m³ Air		5.03			1.71	10	
Beryllium	0.0145	0.00259	ng/m³ Air		0.0146			0.652	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	2.49	1.79	ng/m³ Air		2.50			0.0516	10	
Cobalt	0.475	0.0352	ng/m³ Air		0.475			0.0571	10	
Copper	96.6	2.13	ng/m³ Air		96.3			0.372	10	
Lead	0.956	0.173	ng/m³ Air		0.949			0.707	10	
Manganese	14.1	1.53	ng/m³ Air		14.1			0.139	10	
Molybdenum	3.20	0.290	ng/m³ Air		3.18			0.671	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Duplicate (B4G0205-DUP4) Continued		**Source: 4070134-29**		Prepared: 07/02/24 Analyzed: 07/03/24						
Nickel	1.65	0.527	ng/m³ Air		1.65			0.0660	10	
Selenium	0.207	0.00724	ng/m³ Air		0.199			3.60	10	LJ, QX
Thallium	9.86E-4	4.76E-4	ng/m³ Air		9.70E-4			1.65	10	QB-04
Vanadium	1.57	0.0428	ng/m³ Air		1.56			0.513	10	
Zinc	ND	62.1	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP5)		**Source: 4070134-06R**		Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.217	0.0626	ng/m³ Air		0.237			8.91	10	D, SL
Arsenic	13.3	0.0152	ng/m³ Air		13.4			0.757	10	D
Barium	16.7	1.74	ng/m³ Air		18.3			8.82	10	D
Beryllium	0.0545	0.00519	ng/m³ Air		0.0535			1.74	10	D
Cadmium	ND	0.120	ng/m³ Air		ND				10	D, U
Chromium	11.3	3.59	ng/m³ Air		11.9			5.62	10	D
Cobalt	2.00	0.0707	ng/m³ Air		2.01			0.266	10	D
Copper	169	4.27	ng/m³ Air		166			2.16	10	D, LJ, QX
Lead	2.17	0.347	ng/m³ Air		2.37			8.70	10	D
Manganese	54.1	3.07	ng/m³ Air		54.7			1.18	10	D
Molybdenum	6.10	0.582	ng/m³ Air		5.82			4.73	10	D
Nickel	5.20	1.06	ng/m³ Air		5.36			3.01	10	D
Selenium	0.312	0.0145	ng/m³ Air		0.312			0.168	10	D, LJ, QX
Thallium	0.00247	9.56E-4	ng/m³ Air		0.00269			8.40	10	D, QB-04
Vanadium	5.61	0.0858	ng/m³ Air		5.78			3.07	10	D
Zinc	ND	125	ng/m³ Air		ND				10	D, U
Matrix Spike (B4G0205-MS1)		**Source: 4070134-18**		Prepared & Analyzed: 07/02/24						
Antimony	0.848	0.0361	ng/m³ Air	1.2938	0.0865	58.9	80-120			SL
Arsenic	2.80	0.00877	ng/m³ Air	2.5877	0.352	94.6	80-120			
Barium	29.8	1.00	ng/m³ Air	25.877	3.53	101	80-120			
Beryllium	1.28	0.00299	ng/m³ Air	1.2938	0.0122	98.3	80-120			
Cadmium	1.32	0.0693	ng/m³ Air	1.2938	ND	102	80-120			
Chromium	15.5	2.07	ng/m³ Air	12.938	2.53	100	80-120			
Cobalt	1.67	0.0408	ng/m³ Air	1.2938	0.395	98.3	80-120			
Copper	53.3	2.46	ng/m³ Air	25.877	27.5	99.7	80-120			
Lead	13.7	0.200	ng/m³ Air	12.938	0.652	101	80-120			
Manganese	19.7	1.77	ng/m³ Air	7.7631	12.2	96.7	80-120			
Molybdenum	2.65	0.336	ng/m³ Air	1.2938	1.48	90.5	80-120			
Nickel	4.00	0.610	ng/m³ Air	2.5877	1.30	104	80-120			
Selenium	2.64	0.00838	ng/m³ Air	2.5877	0.159	96.0	80-120			LJ, QX
Thallium	0.126	5.51E-4	ng/m³ Air	0.12938	0.00110	96.5	80-120			
Vanadium	3.60	0.0495	ng/m³ Air	2.5877	1.03	99.3	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Matrix Spike (B4G0205-MS1) Continued Source: 4070134-18 Prepared & Analyzed: 07/02/24										
Zinc	94.8	71.9	ng/m³ Air	77.631	ND	122	80-120			
Matrix Spike (B4G0205-MS2) Source: 4070134-06 Prepared: 07/02/24 Analyzed: 07/03/24										
Antimony	0.672	0.0313	ng/m³ Air	1.1218	0.237	38.8	80-120			SL
Arsenic	15.9	0.00760	ng/m³ Air	2.2437	13.1	124	80-120			
Barium	38.9	0.868	ng/m³ Air	22.437	18.3	91.8	80-120			
Beryllium	1.16	0.00260	ng/m³ Air	1.1218	0.0547	98.1	80-120			
Cadmium	1.15	0.0601	ng/m³ Air	1.1218	0.0787	95.8	80-120			
Chromium	22.1	1.79	ng/m³ Air	11.218	11.5	95.1	80-120			
Cobalt	3.10	0.0354	ng/m³ Air	1.1218	1.95	102	80-120			
Copper	179	2.13	ng/m³ Air	22.437	156	106	80-120			
Lead	13.1	0.174	ng/m³ Air	11.218	2.47	95.2	80-120			
Manganese	62.2	1.53	ng/m³ Air	6.7310	54.4	116	80-120			
Molybdenum	6.66	0.291	ng/m³ Air	1.1218	5.39	113	80-120			
Nickel	7.35	0.529	ng/m³ Air	2.2437	5.22	95.0	80-120			
Selenium	2.35	0.00727	ng/m³ Air	2.2437	0.294	91.6	80-120			LJ, QX
Thallium	0.102	4.78E-4	ng/m³ Air	0.11218	0.00273	88.1	80-120			
Vanadium	7.75	0.0429	ng/m³ Air	2.2437	5.63	94.7	80-120			
Zinc	102	62.3	ng/m³ Air	67.310	ND	152	80-120			
Matrix Spike (B4G0205-MS3) Source: 4070134-06R Prepared: 07/02/24 Analyzed: 07/03/24										
Antimony	0.667	0.0626	ng/m³ Air	1.1218	0.237	38.3	80-120			D, SL
Arsenic	16.4	0.0152	ng/m³ Air	2.2437	13.4	133	80-120			D, QM-4X
Barium	38.8	1.74	ng/m³ Air	22.437	18.3	91.5	80-120			D
Beryllium	1.16	0.00519	ng/m³ Air	1.1218	0.0535	98.7	80-120			D
Cadmium	1.20	0.120	ng/m³ Air	1.1218	ND	107	80-120			D
Chromium	23.2	3.59	ng/m³ Air	11.218	11.9	100	80-120			D
Cobalt	3.19	0.0707	ng/m³ Air	1.1218	2.01	105	80-120			D
Copper	193	4.27	ng/m³ Air	22.437	166	120	80-120			D, LJ, QX
Lead	12.3	0.347	ng/m³ Air	11.218	2.37	88.1	80-120			D
Manganese	63.4	3.07	ng/m³ Air	6.7310	54.7	129	80-120			D
Molybdenum	7.14	0.582	ng/m³ Air	1.1218	5.82	118	80-120			D
Nickel	7.63	1.06	ng/m³ Air	2.2437	5.36	101	80-120			D
Selenium	2.45	0.0145	ng/m³ Air	2.2437	0.312	95.5	80-120			D, LJ, QX
Thallium	0.0984	9.56E-4	ng/m³ Air	0.11218	0.00269	85.4	80-120			D, QB-04
Vanadium	7.99	0.0858	ng/m³ Air	2.2437	5.78	98.5	80-120			D
Zinc	ND	125	ng/m³ Air	67.310	ND		80-120			D, U
Matrix Spike Dup (B4G0205-MSD1) Source: 4070134-18 Prepared & Analyzed: 07/02/24										
Antimony	0.809	0.0361	ng/m³ Air	1.2938	0.0865	55.9	80-120	4.66	20	SL
Arsenic	2.68	0.00877	ng/m³ Air	2.5877	0.352	89.8	80-120	4.54	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Matrix Spike Dup (B4G0205-MSD1) Conti				**Source: 4070134-18**		Prepared & Analyzed: 07/02/24				
Barium	28.2	1.00	ng/m³ Air	25.877	3.53	95.2	80-120	5.52	20	
Beryllium	1.23	0.00299	ng/m³ Air	1.2938	0.0122	94.2	80-120	4.17	20	
Cadmium	1.25	0.0693	ng/m³ Air	1.2938	ND	96.8	80-120	5.60	20	
Chromium	14.7	2.07	ng/m³ Air	12.938	2.53	94.4	80-120	5.19	20	
Cobalt	1.60	0.0408	ng/m³ Air	1.2938	0.395	93.5	80-120	3.78	20	
Copper	52.3	2.46	ng/m³ Air	25.877	27.5	95.6	80-120	1.99	20	
Lead	12.7	0.200	ng/m³ Air	12.938	0.652	93.1	80-120	7.59	20	
Manganese	19.7	1.77	ng/m³ Air	7.7631	12.2	96.5	80-120	0.110	20	
Molybdenum	2.60	0.336	ng/m³ Air	1.2938	1.48	86.6	80-120	1.90	20	
Nickel	3.73	0.610	ng/m³ Air	2.5877	1.30	93.9	80-120	6.99	20	
Selenium	2.54	0.00838	ng/m³ Air	2.5877	0.159	92.1	80-120	3.86	20	LJ, QX
Thallium	0.119	5.51E-4	ng/m³ Air	0.12938	0.00110	91.0	80-120	5.80	20	
Vanadium	3.45	0.0495	ng/m³ Air	2.5877	1.03	93.6	80-120	4.14	20	
Zinc	87.6	71.9	ng/m³ Air	77.631	ND	113	80-120	7.91	20	
Matrix Spike Dup (B4G0205-MSD2)				**Source: 4070134-06**		Prepared: 07/02/24	Analyzed: 07/03/24			
Antimony	0.657	0.0313	ng/m³ Air	1.1218	0.237	37.5	80-120	2.24	20	SL
Arsenic	14.9	0.00760	ng/m³ Air	2.2437	13.1	82.6	80-120	6.07	20	
Barium	39.1	0.868	ng/m³ Air	22.437	18.3	92.6	80-120	0.447	20	
Beryllium	1.19	0.00260	ng/m³ Air	1.1218	0.0547	101	80-120	2.68	20	
Cadmium	1.14	0.0601	ng/m³ Air	1.1218	0.0787	94.8	80-120	0.938	20	
Chromium	22.1	1.79	ng/m³ Air	11.218	11.5	94.5	80-120	0.305	20	
Cobalt	3.11	0.0354	ng/m³ Air	1.1218	1.95	103	80-120	0.254	20	
Copper	181	2.13	ng/m³ Air	22.437	156	113	80-120	0.886	20	
Lead	13.2	0.174	ng/m³ Air	11.218	2.47	95.6	80-120	0.329	20	
Manganese	62.4	1.53	ng/m³ Air	6.7310	54.4	118	80-120	0.255	20	
Molybdenum	6.78	0.291	ng/m³ Air	1.1218	5.39	124	80-120	1.76	20	QM-4X
Nickel	7.35	0.529	ng/m³ Air	2.2437	5.22	95.1	80-120	0.0399	20	
Selenium	2.30	0.00727	ng/m³ Air	2.2437	0.294	89.2	80-120	2.33	20	LJ, QX
Thallium	0.102	4.78E-4	ng/m³ Air	0.11218	0.00273	88.2	80-120	0.0941	20	
Vanadium	7.83	0.0429	ng/m³ Air	2.2437	5.63	98.0	80-120	0.966	20	
Zinc	99.3	62.3	ng/m³ Air	67.310	ND	148	80-120	2.83	20	
Matrix Spike Dup (B4G0205-MSD3)				**Source: 4070134-06R**		Prepared: 07/02/24	Analyzed: 07/03/24			
Antimony	0.658	0.0626	ng/m³ Air	1.1218	0.237	37.5	80-120	1.39	20	D, SL
Arsenic	15.6	0.0152	ng/m³ Air	2.2437	13.4	96.7	80-120	5.14	20	D
Barium	39.2	1.74	ng/m³ Air	22.437	18.3	93.3	80-120	0.985	20	D
Beryllium	1.17	0.00519	ng/m³ Air	1.1218	0.0535	99.7	80-120	1.01	20	D
Cadmium	1.21	0.120	ng/m³ Air	1.1218	ND	108	80-120	0.781	20	D
Chromium	23.2	3.59	ng/m³ Air	11.218	11.9	100	80-120	0.00660	20	D

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Matrix Spike Dup (B4G0205-MSD3) Conti			**Source: 4070134-06R**			Prepared: 07/02/24		Analyzed: 07/03/24		
Cobalt	3.23	0.0707	ng/m³ Air	1.1218	2.01	109	80-120	1.19	20	D
Copper	197	4.27	ng/m³ Air	22.437	166	140	80-120	2.32	20	D, LJ, QX
Lead	12.3	0.347	ng/m³ Air	11.218	2.37	88.8	80-120	0.620	20	D
Manganese	64.2	3.07	ng/m³ Air	6.7310	54.7	141	80-120	1.22	20	D
Molybdenum	7.39	0.582	ng/m³ Air	1.1218	5.82	141	80-120	3.53	20	D
Nickel	7.71	1.06	ng/m³ Air	2.2437	5.36	105	80-120	1.12	20	D
Selenium	2.45	0.0145	ng/m³ Air	2.2437	0.312	95.4	80-120	0.102	20	D, LJ, QX
Thallium	0.0969	9.56E-4	ng/m³ Air	0.11218	0.00269	84.0	80-120	1.59	20	D, QB-04
Vanadium	8.10	0.0858	ng/m³ Air	2.2437	5.78	103	80-120	1.33	20	D
Zinc	ND	125	ng/m³ Air	67.310	ND		80-120		20	D, U
Post Spike (B4G0205-PS1)			**Source: 4070134-18**			Prepared & Analyzed: 07/02/24				
Antimony	0.344	0.0361	ng/m³ Air	0.25877	0.0865	99.5	75-125			SL
Arsenic	1.59	0.00877	ng/m³ Air	1.2938	0.352	95.7	75-125			
Barium	6.11	1.00	ng/m³ Air	2.5877	3.53	99.5	75-125			
Beryllium	0.268	0.00299	ng/m³ Air	0.25877	0.0122	98.9	75-125			
Cadmium	0.139	0.0693	ng/m³ Air	0.12938	ND	108	75-125			
Chromium	3.84	2.07	ng/m³ Air	1.2938	2.53	102	75-125			
Cobalt	0.641	0.0408	ng/m³ Air	0.25877	0.395	95.1	75-125			
Copper	40.9	2.46	ng/m³ Air	12.938	27.5	103	75-125			
Lead	26.8	0.200	ng/m³ Air	25.877	0.652	101	75-125			
Manganese	14.8	1.77	ng/m³ Air	2.5877	12.2	100	75-125			
Molybdenum	2.74	0.336	ng/m³ Air	1.2938	1.48	97.4	75-125			
Nickel	3.92	0.610	ng/m³ Air	2.5877	1.30	102	75-125			
Selenium	1.35	0.00838	ng/m³ Air	1.2938	0.159	92.2	75-125			LJ, QX
Thallium	0.0647	5.51E-4	ng/m³ Air	6.4692E-2	0.00110	98.3	75-125			
Vanadium	2.31	0.0495	ng/m³ Air	1.2938	1.03	98.9	75-125			
Zinc	ND	71.9	ng/m³ Air	25.877	ND		75-125			U
Post Spike (B4G0205-PS2)			**Source: 4070134-06**			Prepared: 07/02/24		Analyzed: 07/03/24		
Antimony	0.467	0.0313	ng/m³ Air	0.22437	0.237	103	75-125			SL
Arsenic	14.2	0.00760	ng/m³ Air	1.1218	13.1	96.0	75-125			
Barium	20.5	0.868	ng/m³ Air	2.2437	18.3	98.0	75-125			
Beryllium	0.283	0.00260	ng/m³ Air	0.22437	0.0547	102	75-125			
Cadmium	0.191	0.0601	ng/m³ Air	0.11218	0.0787	101	75-125			
Chromium	12.6	1.79	ng/m³ Air	1.1218	11.5	100	75-125			
Cobalt	2.17	0.0354	ng/m³ Air	0.22437	1.95	97.5	75-125			
Copper	168	2.13	ng/m³ Air	11.218	156	112	75-125			
Lead	25.3	0.174	ng/m³ Air	22.437	2.47	102	75-125			
Manganese	56.4	1.53	ng/m³ Air	2.2437	54.4	85.9	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Post Spike (B4G0205-PS2) Continued		**Source: 4070134-06**		Prepared: 07/02/24		Analyzed: 07/03/24				
Molybdenum	6.42	0.291	ng/m³ Air	1.1218	5.39	91.8	75-125			
Nickel	7.49	0.529	ng/m³ Air	2.2437	5.22	101	75-125			
Selenium	1.31	0.00727	ng/m³ Air	1.1218	0.294	90.8	75-125			LJ, QX
Thallium	0.0552	4.78E-4	ng/m³ Air	5.6092E-2	0.00273	93.6	75-125			
Vanadium	6.73	0.0429	ng/m³ Air	1.1218	5.63	97.9	75-125			
Zinc	ND	62.3	ng/m³ Air	22.437	ND		75-125			U
Post Spike (B4G0205-PS3)		**Source: 4070134-06R**		Prepared: 07/02/24		Analyzed: 07/03/24				
Antimony	0.460	0.0626	ng/m³ Air	0.22437	0.237	99.2	75-125			D, SL
Arsenic	14.6	0.0152	ng/m³ Air	1.1218	13.4	102	75-125			D
Barium	20.4	1.74	ng/m³ Air	2.2437	18.3	92.5	75-125			D
Beryllium	0.277	0.00519	ng/m³ Air	0.22437	0.0535	99.8	75-125			D
Cadmium	0.198	0.120	ng/m³ Air	0.11218	ND	176	75-125			D
Chromium	13.0	3.59	ng/m³ Air	1.1218	11.9	99.6	75-125			D
Cobalt	2.23	0.0707	ng/m³ Air	0.22437	2.01	102	75-125			D
Copper	180	4.27	ng/m³ Air	11.218	166	126	75-125			QX, D, LJ
Lead	24.4	0.347	ng/m³ Air	22.437	2.37	98.1	75-125			D
Manganese	57.4	3.07	ng/m³ Air	2.2437	54.7	121	75-125			D
Molybdenum	6.94	0.582	ng/m³ Air	1.1218	5.82	99.9	75-125			D
Nickel	7.68	1.06	ng/m³ Air	2.2437	5.36	103	75-125			D
Selenium	1.37	0.0145	ng/m³ Air	1.1218	0.312	94.7	75-125			D, LJ, QX
Thallium	0.0523	9.56E-4	ng/m³ Air	5.6092E-2	0.00269	88.5	75-125			D, QB-04
Vanadium	6.89	0.0858	ng/m³ Air	1.1218	5.78	98.6	75-125			D
Zinc	ND	125	ng/m³ Air	22.437	ND		75-125			D, U
Dilution Check (B4G0205-SRL1)		**Source: 4070134-18**		Prepared & Analyzed: 07/02/24						
Antimony	ND	0.181	ng/m³ Air		ND				10	SL, U
Arsenic	0.360	0.0438	ng/m³ Air		0.352			2.26	10	
Barium	ND	5.01	ng/m³ Air		ND				10	U
Beryllium	ND	0.0150	ng/m³ Air		ND				10	U
Cadmium	ND	0.347	ng/m³ Air		ND				10	U
Chromium	ND	10.3	ng/m³ Air		ND				10	U
Cobalt	0.401	0.204	ng/m³ Air		0.395			1.60	10	
Copper	28.3	12.3	ng/m³ Air		27.5			2.79	10	
Lead	ND	1.00	ng/m³ Air		ND				10	U
Manganese	12.5	8.84	ng/m³ Air		12.2			2.45	10	
Molybdenum	ND	1.68	ng/m³ Air		ND				10	U
Nickel	ND	3.05	ng/m³ Air		ND				10	U
Selenium	0.149	0.0419	ng/m³ Air		0.159			6.07	10	LJ, QX
Thallium	ND	0.00276	ng/m³ Air		ND				10	U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Dilution Check (B4G0205-SRL1) Continue			**Source: 4070134-18**		Prepared & Analyzed: 07/02/24					
Vanadium	1.08	0.247	ng/m³ Air		1.03			4.35	10	
Zinc	ND	359	ng/m³ Air		ND				10	U
Dilution Check (B4G0205-SRL2)			**Source: 4070134-06**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.237	0.157	ng/m³ Air		0.237			0.0434	10	SL
Arsenic	13.4	0.0380	ng/m³ Air		13.1			2.47	10	
Barium	18.4	4.34	ng/m³ Air		18.3			0.214	10	
Beryllium	0.0516	0.0130	ng/m³ Air		0.0547			5.83	10	
Cadmium	ND	0.301	ng/m³ Air		ND				10	U
Chromium	11.9	8.96	ng/m³ Air		11.5			3.52	10	
Cobalt	2.03	0.177	ng/m³ Air		1.95			3.65	10	
Copper	159	10.7	ng/m³ Air		156			2.11	10	
Lead	2.43	0.868	ng/m³ Air		2.47			1.36	10	
Manganese	55.7	7.67	ng/m³ Air		54.4			2.23	10	
Molybdenum	5.74	1.46	ng/m³ Air		5.39			6.28	10	
Nickel	5.46	2.64	ng/m³ Air		5.22			4.56	10	
Selenium	0.327	0.0363	ng/m³ Air		0.294			10.6	10	LJ, QX, SRD-01
Thallium	0.00596	0.00239	ng/m³ Air		0.00273			74.3	10	
Vanadium	5.74	0.215	ng/m³ Air		5.63			2.03	10	
Zinc	ND	312	ng/m³ Air		ND				10	U
Dilution Check (B4G0205-SRL3)			**Source: 4070134-06R**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	ND	0.313	ng/m³ Air		ND				10	D, SL, U
Arsenic	12.7	0.0760	ng/m³ Air		13.4			5.54	10	D
Barium	17.0	8.68	ng/m³ Air		18.3			7.04	10	D
Beryllium	0.0438	0.0260	ng/m³ Air		0.0535			19.9	10	D
Cadmium	ND	0.601	ng/m³ Air		ND				10	D, U
Chromium	ND	17.9	ng/m³ Air		ND				10	D, U
Cobalt	1.90	0.354	ng/m³ Air		2.01			5.58	10	D
Copper	151	21.3	ng/m³ Air		166			9.41	10	D, LJ, QX
Lead	2.16	1.74	ng/m³ Air		2.37			9.20	10	D
Manganese	52.1	15.3	ng/m³ Air		54.7			4.95	10	D
Molybdenum	5.60	2.91	ng/m³ Air		5.82			3.81	10	D
Nickel	ND	5.29	ng/m³ Air		5.36				10	D, U
Selenium	0.286	0.0727	ng/m³ Air		0.312			8.69	10	D, LJ, QX
Thallium	0.00688	0.00478	ng/m³ Air		ND			87.7	10	D, QB-04
Vanadium	5.44	0.429	ng/m³ Air		5.78			6.03	10	D
Zinc	ND	623	ng/m³ Air		ND				10	D, U

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

June 27 through July 3, 2024
[Report Updated: August 1, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from June 27 through July 3, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly affect air quality in Lahaina. The State of Hawaii Department of Health, Clean Air Branch (HDOH) receives acquired data via an online shared site, and information conveyed in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until completion of debris removal activities or until HDOH advises otherwise.

Air quality monitoring for particulate matter proceeded at all four community locations over a 24-hour period each day in accordance with the CAMSP. Intent of ambient air monitoring was to assess presence of airborne particulates with particle size diameter of 10 micrograms (µg)—the size recognized as small enough for inhalation into a person's lungs. This particle size diameter is a parameter for health evaluations, identified as "PM_{10}". Monitoring for PM_{10} occurred 24 hours a day, 7 days a week from June 27 through July 3 at each community location. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, which is a 24-hour time-weighted average of 150 µg per cubic meter (µg/m^3).

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µg or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

Daily air sampling at all four community locations accorded with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were measured at each monitoring location throughout this reporting period. None of the results exceeded the 150 µg/m^3 screening level. Notably, relatively elevated readings were recorded at Lahaina Boys & Girls Club (AM-04) on June 28 and June 29 with 24-hour TWA concentrations of 51 µg/m^3 and 80 µg/m^3, respectively. This data was recorded at 23:00 on June 28 and between 00:00 and 03:00 on June 29. Wind speeds were below 1 mph at the times of these readings and therefore not likely a contributing factor. Field observations are not available due to the timeframe of

these readings being outside of normal working hours. These are not likely related to USACE operations because debris removal operations were not being conducted at the time. **Table 1** lists results.

Air Sampling Results

Collection of 28 samples to be analyzed for asbestos fibers occurred at each monitoring location throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's analytical sensitivity. **Table 2** lists results. Notably, the laboratory commented "Numerous gypsum fibers present" regarding samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on July 3
- WW Pump Station #4 on June 27, June 28, and July 3
- Lahaina Intermediate School on July 3
- Lahaina Boys & Girls Club on July 3.

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analysis; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3, respectively, for total dust as time-weighted averages (National Institute for Occupational Safety and Health [NIOSH] and Occupational Safety and Health Administration [OSHA]). While total dust sampling has not occurred, results of size-discriminated particulate sampling (PM_{10}) at these locations do not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

The heavy metals sample collected at the Lahaina Boys & Girls Club (AM-04) on June 27 was withheld from laboratory analysis due to low sample volume. Following verification that the sample volume collected was in compliance with minimum volume requirements per the analytical method, the sample was analyzed by the laboratory. This report has been updated with the results for that sample. All ambient air samples from all community sampling locations yielded low levels of metals, all below SSALs.

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA

Environmental Response Team (ERT) SOPs 2008, “General Air Monitoring and Sampling Guidelines,” and 2015 “Asbestos Air Sampling," included in the CAMSP.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook.”

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
June 27 through July 3, 2024
[Report Updated: August 1, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
6/27/2024	Leialii Hawaiian Homelands (AM-01)	6.0
	WW Pump Station #4 (AM-02)	5.0
	Lahaina Intermediate School (AM-03)	9.7
	Lahaina Boys & Girls Club (AM-04)	10
6/28/2024	Leialii Hawaiian Homelands (AM-01)	8.8
	WW Pump Station #4 (AM-02)	5.6
	Lahaina Intermediate School (AM-03)	27
	Lahaina Boys & Girls Club (AM-04)	51
6/29/2024	Leialii Hawaiian Homelands (AM-01)	6.3
	WW Pump Station #4 (AM-02)	4.6
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	80
6/30/2024	Leialii Hawaiian Homelands (AM-01)	7.9
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	14
7/1/2024	Leialii Hawaiian Homelands (AM-01)	6.3
	WW Pump Station #4 (AM-02)	6.6
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	14
7/2/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	13
7/3/2024	Leialii Hawaiian Homelands (AM-01)	9.6
	WW Pump Station #4 (AM-02)	5.6
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	15

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
June 27 through July 3, 2024
[Report Updated: August 1, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
6/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000903	0.00100	0.00509	0.0000165	ND	0.00339	0.000706	0.151	0.000514	0.0193	0.00440	0.00216	0.000179	0.00000129	0.00212	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000115	0.000454	0.00449	0.0000161	ND	0.00255	0.000468	0.0869	0.000959	0.0158	0.00187	0.00136	0.000176	0.000000918	0.00158	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000688	0.000301	0.00373	0.0000338	ND	0.00272	0.000579	0.0705	0.000488	0.0150	0.00180	0.00152	0.000169	0.00000101	0.00149	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000109	0.000509	0.00472	0.0000203	ND	0.00317	0.000577	0.0393	0.00108	0.0201	0.00152	0.00176	0.000161	0.00000121	0.00158	ND
6/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000166	0.00267	0.00620	0.0000200	ND	0.00507	0.00100	0.131	0.000444	0.0240	0.00387	0.00311	0.000154	0.00000115	0.00262	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000589	0.00517	0.0000187	ND	0.00316	0.000634	0.0979	0.00109	0.0192	0.00245	0.00200	0.000172	0.00000113	0.00193	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000558	0.000232	0.00356	0.0000329	ND	0.00303	0.000673	0.121	0.000299	0.0164	0.00245	0.00186	0.000168	0.000000944	0.00160	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000112	0.000530	0.00503	0.0000192	ND	0.00341	0.000700	0.0419	0.00113	0.0207	0.00132	0.00225	0.000181	0.00000102	0.00188	ND
6/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000716	0.000674	0.00532	0.0000197	ND	0.00442	0.00106	0.132	0.000489	0.0238	0.00523	0.00387	0.000142	0.00000112	0.00273	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000179	0.000368	0.00432	0.00000758	ND	ND	0.000242	0.0336	0.000672	0.00719	0.00160	0.00121	0.0000987	0.000000677	0.000902	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000565	0.000173	0.00208	0.0000119	ND	ND	0.000227	0.0575	0.000259	0.00575	0.00228	0.00108	0.000106	0.000000571	0.000759	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000324	0.00364	0.00000954	ND	ND	0.000336	0.0333	0.000642	0.0122	0.00144	0.00130	0.000106	0.000000813	0.00102	ND
6/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000870	0.000487	0.00307	0.00000812	ND	0.00229	0.000370	0.119	0.000361	0.0102	0.00536	0.00151	0.000138	0.000000857	0.00140	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000240	0.00363	0.00000838	ND	ND	0.000256	0.0453	0.000594	0.00793	0.00221	0.00115	0.000137	0.000000782	0.00118	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000579	0.000201	0.00241	0.0000139	ND	ND	0.000242	0.0497	0.000382	0.00662	0.00202	0.00115	0.000129	0.000000748	0.00103	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000101	0.000430	0.00412	0.0000135	ND	0.00252	0.000449	0.0367	0.00106	0.0148	0.00178	0.00167	0.000174	0.000000923	0.00154	ND
7/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000550	0.000328	0.00247	0.00000639	ND	0.00220	0.000304	0.109	0.000233	0.00791	0.00339	0.00137	0.0000913	0.000000645	0.00102	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000309	0.00379	0.00000958	ND	0.00194	0.000307	0.0442	0.000705	0.00896	0.00203	0.00146	0.000155	0.000000958	0.00132	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000643	0.000231	0.00279	0.0000156	ND	0.00207	0.000310	0.0604	0.000522	0.00810	0.00271	0.00123	0.000143	0.000000917	0.000998	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000142	0.000400	0.00369	0.0000131	ND	0.00232	0.000415	0.0459	0.00101	0.0136	0.00274	0.00146	0.000152	0.00000102	0.00131	ND
7/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000159	0.00351	0.00701	0.0000214	ND	0.00546	0.00110	0.109	0.000486	0.0261	0.00440	0.00320	0.000166	0.00000142	0.00300	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000158	0.000904	0.00591	0.0000193	ND	0.00314	0.000676	0.0440	0.00189	0.0192	0.00192	0.00220	0.000177	0.00000107	0.00200	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000544	0.000215	0.00288	0.0000180	ND	0.00224	0.000419	0.0662	0.000469	0.0101	0.00378	0.00131	0.000145	0.000000687	0.00109	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000110	0.00140	0.00380	0.0000133	ND	0.00296	0.000468	0.0394	0.000844	0.0150	0.00231	0.00147	0.000147	0.000000851	0.00123	ND
7/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000728	0.000692	0.00638	0.0000221	ND	0.00484	0.00114	0.0938	0.000358	0.0268	0.00430	0.00311	0.000178	0.00000132	0.00321	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000179	0.000577	0.00430	0.0000114	ND	0.00194	0.000362	0.0431	0.00152	0.0107	0.00176	0.00136	0.000150	0.000000767	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000674	0.000321	0.00342	0.0000232	ND	0.00248	0.000468	0.0526	0.000708	0.0121	0.00313	0.00149	0.000146	0.000000845	0.00129	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000523	0.00494	0.0000171	ND	0.00279	0.000564	0.0393	0.000863	0.0182	0.00256	0.00172	0.000168	ND	0.00153	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000840	0.00469	0.0000190	NA	0.00342	0.000640	0.0852	0.000880	0.0176	0.00316	0.00202	0.000160	0.00000100	0.000181	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Report updated to include results received from lab concerning HM sample collected from Lahaina Boys & Girls Club (AM-04) on 6/27

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
June 27 through July 3, 2024
[Report Updated: August 1, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/27/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	57	761.8
6/27/2024	AM-02	WW Pump Station #4	1.1	SSE	80	65	763.8
6/27/2024	AM-03	Lahaina Intermediate School	1.2	ESE	78	64	754.5
6/27/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	78	65	763.3
6/28/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	78	66	760.3
6/28/2024	AM-02	WW Pump Station #4	1.0	SE	78	71	762.3
6/28/2024	AM-03	Lahaina Intermediate School	1.0	ESE	77	70	753.0
6/28/2024	AM-04	Lahaina Boys & Girls Club	0.8	S	77	71	762.0
6/29/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	81	58	760.3
6/29/2024	AM-02	WW Pump Station #4	1.1	SE	80	64	762.3
6/29/2024	AM-03	Lahaina Intermediate School	1.3	ESE	78	63	753.1
6/29/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	78	66	762.0
6/30/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	81	57	761.5
6/30/2024	AM-02	WW Pump Station #4	1.1	SE	80	61	763.5
6/30/2024	AM-03	Lahaina Intermediate School	1.4	ESE	78	59	754.2
6/30/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSW	78	64	763.1
7/1/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	81	55	761.4
7/1/2024	AM-02	WW Pump Station #4	1.2	SE	80	62	763.4
7/1/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	59	754.2
7/1/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	63	763.1
7/2/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	80	60	760.8
7/2/2024	AM-02	WW Pump Station #4	0.9	S	79	66	762.8
7/2/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	64	753.6
7/2/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSW	78	66	762.7
7/3/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	81	59	760.7
7/3/2024	AM-02	WW Pump Station #4	1.0	S	80	67	762.7
7/3/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	753.4
7/3/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	78	66	762.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in-depth discussion can be found in the attached weekly report.

**Please note sample data that does not fall within this reporting period have been removed or redacted

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EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062724-AB**		**Sample Description:**	**DL248520**
EMSL Sample Number:	042413732-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0001 **Customer Sample:** MFL-AM01-062724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J6	None Detected									
A5	G7	None Detected									
A5	C7	None Detected									
A6	H8	None Detected									
A6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062724-AB**		**Sample Description:**	**DL248528**
EMSL Sample Number:	042413732-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0002 **Customer Sample:** MFL-AM02-062724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I6	None Detected									
B2	D5	None Detected									
B2	B7	None Detected									
B3	C4	None Detected									
B3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062724-AB**		**Sample Description:**	**DL248510**
EMSL Sample Number:	042413732-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0003 **Customer Sample:** MFL-AM03-062724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	I7	None Detected									
B6	G6	None Detected									
B6	C7	None Detected									
B7	G6	None Detected									
B7	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062724-AB**		**Sample Description:**	**DL248490**
EMSL Sample Number:	042413732-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7113.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0004 **Customer Sample:** MFL-AM04-062724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	D4	None Detected									
C1	G5	None Detected									
C1	J6	None Detected									
C2	D4	None Detected									
C2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062724-AB** **Sample Description: DK864515**

EMSL Sample Number:	042413732-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042413732**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0005 **Customer Sample:** MFL-FB01-062724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	C3	None Detected									
C5	D4	None Detected									
C5	E6	None Detected									
C5	G5	None Detected									
C5	J4	None Detected									
C7	A4	None Detected									
C7	C5	None Detected									
C7	E7	None Detected									
C8	H5	None Detected									
C8	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062824-AB**		**Sample Description:**	**DL248501**
EMSL Sample Number:	042413732-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0006 **Customer Sample:** MFL-AM01-062824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D3	B4	None Detected									
D3	D5	None Detected									
D3	H5	None Detected									
D4	G6	None Detected									
D4	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062824-AB**		**Sample Description:**	**DL248519**
EMSL Sample Number:	042413732-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7287.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0007 **Customer Sample:** MFL-AM02-062824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	D7	None Detected									
D5	G6	None Detected									
D5	J4	None Detected									
D6	H8	None Detected									
D6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/03/2024 11:20 AM
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062824-AB**		**Sample Description:**	**DL248521**
EMSL Sample Number:	042413732-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0008 **Customer Sample:** MFL-AM03-062824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H7	None Detected									
E1	E8	None Detected									
E1	C6	None Detected									
E2	C5	None Detected									
E2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062824-AB**		**Sample Description:**	**DL248526**
EMSL Sample Number:	042413732-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7180.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0009 **Customer Sample:** MFL-AM04-062824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H7	None Detected									
E5	E8	None Detected									
E5	A7	None Detected									
E6	C5	None Detected									
E6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062824-AB** **Sample Description: DK864458**

EMSL Sample Number:	042413732-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0010 **Customer Sample:** MFL-FB01-062824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J1	None Detected									
F2	H3	None Detected									
F2	F1	None Detected									
F2	E3	None Detected									
F2	C1	None Detected									
F3	J1	None Detected									
F3	I4	None Detected									
F3	F4	None Detected									
F3	D5	None Detected									
F3	A6	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062924-AB**		**Sample Description:**	**DK864465**
EMSL Sample Number:	042413732-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0011 **Customer Sample:** MFL-AM01-062924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F6	H7	None Detected									
F6	E6	None Detected									
F6	C7	None Detected									
F7	I8	None Detected									
F7	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062924-AB**		**Sample Description:**	**DK864469**
EMSL Sample Number:	042413732-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7033.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0012 **Customer Sample:** MFL-AM02-062924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B5	None Detected									
G1	D4	None Detected									
G1	G4	None Detected									
G3	B3	None Detected									
G3	F2	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062924-AB**		**Sample Description:**	**DK864467**
EMSL Sample Number:	042413732-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7368.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0013 **Customer Sample:** MFL-AM03-062924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	H7	None Detected									
G5	E8	None Detected									
G5	B7	None Detected									
G6	H8	None Detected									
G6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062924-AB**		**Sample Description:**	**DK864500**
EMSL Sample Number:	042413732-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7101.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0014 **Customer Sample:** MFL-AM04-062924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B6	None Detected									
H1	D5	None Detected									
H1	H4	None Detected									
H2	C4	None Detected									
H2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062924-AB** **Sample Description: DK864431**

EMSL Sample Number:	042413732-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0015 **Customer Sample:** MFL-FB01-062924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A6	None Detected									
H5	C5	None Detected									
H5	E4	None Detected									
H5	G10	None Detected									
H5	J7	None Detected									
H6	J8	None Detected									
H6	H5	None Detected									
H6	F3	None Detected									
H6	D4	None Detected									
H6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-063024-AB**		**Sample Description:**	**DK864448**
EMSL Sample Number:	042413732-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0016 **Customer Sample:** MFL-AM01-063024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A5	None Detected									
I2	D6	None Detected									
I2	H8	None Detected									
I3	B8	None Detected									
I3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-063024-AB**		**Sample Description:**	**DK864432**
EMSL Sample Number:	042413732-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0017 **Customer Sample:** MFL-AM02-063024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J3	None Detected									
I5	F3	None Detected									
I5	C5	None Detected									
I6	I1	None Detected									
I6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-063024-AB**		**Sample Description:**	**DK864489**
EMSL Sample Number:	042413732-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0018 **Customer Sample:** MFL-AM03-063024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	E4	None Detected									
J1	D8	None Detected									
J1	A7	None Detected									
J2	I5	None Detected									
J2	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-063024-AB**		**Sample Description:**	**DK864512**
EMSL Sample Number:	042413732-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0019 **Customer Sample:** MFL-AM04-063024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I6	None Detected									
J5	G7	None Detected									
J5	E4	None Detected									
J6	C3	None Detected									
J6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/15/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-063024-AB**		**Sample Description:**	**DK864517**
EMSL Sample Number:	042413732-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0020 **Customer Sample:** MFL-FB01-063024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J3	None Detected									
K1	H4	None Detected									
K1	F8	None Detected									
K1	D4	None Detected									
K1	B8	None Detected									
K2	A4	None Detected									
K2	C1	None Detected									
K2	E4	None Detected									
K2	G7	None Detected									
K2	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413732
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/03/2024 11:20 AM
Analysis Date:	07/13/2024
Report Date:	07/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blak**
EMSL Sample Number:	042413732-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413732
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413732-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I5	None Detected									
A1	G7	None Detected									
A1	E8	None Detected									
A1	D6	None Detected									
A1	A6	None Detected									
A2	J7	None Detected									
A2	H8	None Detected									
A2	E8	None Detected									
A2	C7	None Detected									
A2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413732

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703)489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☑ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)
Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-062724-AB	DL248520	7,190.496	06/27/24 1059
MFL-AM02-062724-AB	DL248528	7,229.401	06/27/24 1114
MFL-AM03-062724-AB	DL248510	7,209.261	06/27/24 1258
MFL-AM04-062724-AB	DL248490	7,113.412	06/27/24 1318
MFL-FB01-062724-AB	DK864515	0	06/27/24 1200
MFL-AM01-062824-AB	DL248501	7,242.226	06/28/24 1050
MFL-AM02-062824-AB	DL248519	7,287.788	06/28/24 1140
MFL-AM03-062824-AB	DL248521	7,164.588	06/28/24 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Shaina Epstein	Date/Time: 07/01/24 1100	Received by:	Date/Time: 7/3/24 1120
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of

RECEIVED
24 JUL -3 AM 10:20
EMSL
CINNAMINSON, NJ

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413732

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04	-062824-AB DL248526	7,180.128	06/28/24 1322
MFL-FB01	-062824-AB DK864458	0	06/28/24 1200
MFL-AM01	-062924-AB DK864465	7,259.040	06/29/24 1053
MFL-AM02	-062924-AB DK864469	7,033.198	06/29/24 1108
MFL-AM03	-062924-AB DK864467	7,368.912	06/29/24 1255
MFL-AM04	-062924-AB DK864500	7,100.994	06/29/24 1314
MFL-FB01	-062924-AB DK864431	0	06/29/24 1200
MFL-AM01	-063024-AB DK864448	7,212.096	06/30/24 1057
MFL-AM02	-063024-AB DK864432	7,225.200	06/30/24 1110
MFL-AM03	-063024-AB DK864489	7,221.478	06/30/24 1258
MFL-AM04	-063024-AB DK864512	7,213.131	06/30/24 1316
MFL-FB01	-063024-AB DK864517	0	06/30/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: ~~06~~ 07/01/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL -3 AM 11:20

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/16/2024 and Shanna Vasser 7/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/27/2024 – 06/30/2024
Report No: 42413732

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-070124-AB**		**Sample Description:**	**DK864446**
EMSL Sample Number:	042413978-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0001 **Customer Sample:** MFL-AM01-070124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J5	None Detected									
A5	G7	None Detected									
A5	C3	None Detected									
A6	B6	None Detected									
A6	F9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-070124-AB** **Sample Description: DK864434**

EMSL Sample Number:	042413978-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0002 **Customer Sample:** MFL-AM02-070124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H8	None Detected									
B1	E4	None Detected									
B1	B7	None Detected									
B2	G9	None Detected									
B2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070124-AB**		**Sample Description:**	**DK864435**
EMSL Sample Number:	042413978-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0003 **Customer Sample:** MFL-AM03-070124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A4	None Detected									
B5	D7	None Detected									
B5	G3	None Detected									
B6	C8	None Detected									
B6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-070124-AB** **Sample Description: DK864471**

EMSL Sample Number:	042413978-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0004 **Customer Sample:** MFL-AM04-070124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J5	None Detected									
C1	F4	None Detected									
C1	B7	None Detected									
C2	C3	None Detected									
C2	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070124-AB** **Sample Description: DK864519**

EMSL Sample Number:	042413978-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0005 **Customer Sample:** MFL-FB01-070124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J10	None Detected									
C5	I5	None Detected									
C5	F2	None Detected									
C5	D4	None Detected									
C6	I7	None Detected									
C6	G3	None Detected									
C6	B6	None Detected									
C7	I3	None Detected									
C7	F6	None Detected									
C7	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070224-AB** **Sample Description: DK864447**

EMSL Sample Number:	042413978-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0006 **Customer Sample:** MFL-AM01-070224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	H9	None Detected									
D1	H4	None Detected									
D1	C7	None Detected									
D2	I4	None Detected									
D2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070224-AB**		**Sample Description:**	**DK864433**
EMSL Sample Number:	042413978-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0007 **Customer Sample:** MFL-AM02-070224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	G7	None Detected									
D5	E3	None Detected									
D5	A6	None Detected									
D6	G4	None Detected									
D6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-070224-AB** **Sample Description: DK864444**

EMSL Sample Number:	042413978-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0008 **Customer Sample:** MFL-AM03-070224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I5	None Detected									
E1	E3	None Detected									
E1	B7	None Detected									
E2	A4	None Detected									
E2	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Fax:	N/A
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Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-070224-AB** **Sample Description: DK864455**

EMSL Sample Number:	042413978-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0009 **Customer Sample:** MFL-AM04-070224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B3	None Detected									
E5	E7	None Detected									
E5	J4	None Detected									
E6	A2	None Detected									
E6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070224-AB** **Sample Description:** **DK864441**

EMSL Sample Number:	042413978-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0010 **Customer Sample:** MFL-FB01-070224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J2	None Detected									
F1	H5	None Detected									
F1	D7	None Detected									
F1	A4	None Detected									
F2	B6	None Detected									
F2	F4	None Detected									
F2	J7	None Detected									
F3	I8	None Detected									
F3	G10	None Detected									
F3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070324-AB** **Sample Description: DK864430**

EMSL Sample Number:	042413978-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0011 **Customer Sample:** MFL-AM01-070324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	B5	None Detected									
F5	E3	None Detected									
F5	I6	None Detected									
F6	D8	None Detected									
F6	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-070324-AB** **Sample Description: DK864443**

EMSL Sample Number:	042413978-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0012 **Customer Sample:** MFL-AM02-070324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	C7	None Detected									
G1	C4	None Detected									
G1	H5	None Detected									
G2	I2	None Detected									
G2	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-070324-AB** **Sample Description: DK864473**

EMSL Sample Number:	042413978-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7255.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0013 **Customer Sample:** MFL-AM03-070324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B4	None Detected									
G5	F7	None Detected									
G5	J3	None Detected									
G6	C2	None Detected									
G6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-070324-AB**		**Sample Description:**	**DK864490**
EMSL Sample Number:	042413978-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0014 **Customer Sample:** MFL-AM04-070324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H9	None Detected									
H1	E5	None Detected									
H1	A3	None Detected									
H2	B6	None Detected									
H2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070324-AB** **Sample Description: DK864462**

EMSL Sample Number:	042413978-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0015 **Customer Sample:** MFL-FB01-070324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A8	None Detected									
H5	C6	None Detected									
H5	E2	None Detected									
H5	I6	None Detected									
H6	B6	None Detected									
H6	D4	None Detected									
H6	J7	None Detected									
H7	J5	None Detected									
H7	G2	None Detected									
H7	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413978
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/08/2024 09:00 AM
Analysis Date:	07/16/2024
Report Date:	07/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042413978-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413978
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042413978-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I2	None Detected									
A1	G5	None Detected									
A1	D7	None Detected									
A1	A6	None Detected									
A2	A4	None Detected									
A2	F2	None Detected									
A2	I5	None Detected									
A3	B3	None Detected									
A3	E7	None Detected									
A3	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413978

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL -8 AM 9:39

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Sober
Street Address:	1560 Broadway Ste 1400
City, State, Zip:	Denver, CO
Country:	
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.sober@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-070124-AB	DK864446	7,216.031	07/01/24 1054
MFL-AM02-070124-AB	DK864434	7,198.789	07/01/24 1108
MFL-AM03-070124-AB	DK864435	7,138.452	07/01/24 1256
MFL-AM04-070124-AB	DK864471	7,144.795	07/01/24 1311
MFL-FB01-070124-AB	DK864519	0	07/01/24 1200
MFL-AM01-070224-AB	DK864447	7,214.858	07/02/24 1055
MFL-AM02-070224-AB	DK864433	7,251.508	07/02/24 1114
MFL-AM03-070224-AB	DK864444	7,228.241	07/02/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15-EB

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 07/05/24 1102	Received by: Chelsea FX
Relinquished by:		Date/Time:	Received by: Date/Time: 7/8/24 9:00

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042413978

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL -8 AM 9:39

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413978

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-070224-AB	DK864455	7,208.928	07/02/24 1314
MFL-FB01-070224-AB	DK864441	0	07/02/24 1200
MFL-AM01-070324-AB	DK864430	7,174.159	07/03/24 1052
MFL-AM02-070324-AB	DK864443	7,199.099	07/03/24 1105
MFL-AM03-070324-AB	DK864473	7,255.300	07/03/24 1253
MFL-AM04-070324-AB	DK864490	7,185.464	07/03/24 1310
MFL-FB01-070324-AB	DK864462	0	07/03/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 07/05/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/17/2024 and Shanna Vasser 7/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/01/2024 – 07/03/2024
Report No: 42413978

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 18, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/08/24 13:01.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-062724-HM	4070847-01	Air	06/27/24 23:59	07/08/24 13:01
MFL-AM02-062724-HM	4070847-02	Air	06/27/24 23:59	07/08/24 13:01
MFL-AM03-062724-HM	4070847-03	Air	06/27/24 23:59	07/08/24 13:01
MFL-AM01-062824-HM	4070847-05	Air	06/28/24 23:59	07/08/24 13:01
MFL-AM02-062824-HM	4070847-06	Air	06/28/24 23:59	07/08/24 13:01
MFL-AM03-062824-HM	4070847-07	Air	06/28/24 23:59	07/08/24 13:01
MFL-AM04-062824-HM	4070847-08	Air	06/28/24 23:59	07/08/24 13:01
MFL-FB01-062824-HM	4070847-09	Air	06/28/24 00:00	07/08/24 13:01
MFL-AM01-062924-HM	4070847-10	Air	06/29/24 23:59	07/08/24 13:01
MFL-AM02-062924-HM	4070847-11	Air	06/29/24 23:59	07/08/24 13:01
MFL-AM03-062924-HM	4070847-12	Air	06/29/24 23:59	07/08/24 13:01
MFL-AM04-062924-HM	4070847-13	Air	06/29/24 23:59	07/08/24 13:01
MFL-AM01-063024-HM	4070847-14	Air	06/30/24 23:59	07/08/24 13:01
MFL-AM02-063024-HM	4070847-15	Air	06/30/24 23:59	07/08/24 13:01
MFL-AM03-063024-HM	4070847-16	Air	06/30/24 23:59	07/08/24 13:01
MFL-AM04-063024-HM	4070847-17	Air	06/30/24 23:59	07/08/24 13:01
MFL-FB01-063024-HM	4070847-18	Air	06/30/24 00:00	07/08/24 13:01
MFL-AM01-070124-HM	4070847-19	Air	07/01/24 23:59	07/08/24 13:01
MFL-AM02-070124-HM	4070847-20	Air	07/01/24 23:59	07/08/24 13:01
MFL-AM03-070124-HM	4070847-21	Air	07/01/24 23:59	07/08/24 13:01
MFL-AM04-070124-HM	4070847-22	Air	07/01/24 23:59	07/08/24 13:01

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM01-070224-HM	4070847-23	Air	07/02/24 23:59	07/08/24 13:01
MFL-AM02-070224-HM	4070847-24	Air	07/02/24 23:59	07/08/24 13:01
MFL-AM03-070224-HM	4070847-25	Air	07/02/24 23:59	07/08/24 13:01
MFL-AM04-070224-HM	4070847-26	Air	07/02/24 23:59	07/08/24 13:01
MFL-FB01-070224-HM	4070847-27	Air	07/02/24 00:00	07/08/24 13:01
MFL-AM01-070324-HM	4070847-28	Air	07/03/24 23:59	07/08/24 13:01
MFL-AM02-070324-HM	4070847-29	Air	07/03/24 23:59	07/08/24 13:01
MFL-AM03-070324-HM	4070847-30	Air	07/03/24 23:59	07/08/24 13:01
MFL-AM04-070324-HM	4070847-31	Air	07/03/24 23:59	07/08/24 13:01

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062724-HM
Matrix: Air
Lab ID: 4070847-01
Sample Volume: 1940.849 m³
Filter ID:
Sampled: 06/27/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 22:21

Comments: Q8520651 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0903**	SL	**0.0324**
Arsenic	**7440-38-2**	**1.00**		**0.00785**
Barium	**7440-39-3**	**5.09**		**0.897**
Beryllium	**7440-41-7**	**0.0165**		**0.00268**
Cadmium	7440-43-9	0.0125	U	0.0621
Chromium	**7440-47-3**	**3.39**		**1.85**
Cobalt	**7440-48-4**	**0.706**		**0.0365**
Copper	**7440-50-8**	**151**		**2.20**
Lead	**7439-92-1**	**0.514**		**0.179**
Manganese	**7439-96-5**	**19.3**		**1.58**
Molybdenum	**7439-98-7**	**4.40**		**0.301**
Nickel	**7440-02-0**	**2.16**		**0.547**
Selenium	**7782-49-2**	**0.179**		**0.00751**
Thallium	**7440-28-0**	**0.00129**		**4.94E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0443**
Zinc	7440-66-6	12.5	U	64.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062724-HM
Matrix: Air
Lab ID: 4070847-02
Sample Volume: 2013.069 m³
Filter ID:
Sampled: 06/27/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 22:31

Comments: Q8520650 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.454**		**0.00757**
Barium	**7440-39-3**	**4.49**		**0.865**
Beryllium	**7440-41-7**	**0.0161**		**0.00259**
Cadmium	7440-43-9	0.0106	U	0.0599
Chromium	**7440-47-3**	**2.55**		**1.79**
Cobalt	**7440-48-4**	**0.468**		**0.0352**
Copper	**7440-50-8**	**86.9**		**2.13**
Lead	**7439-92-1**	**0.959**		**0.173**
Manganese	**7439-96-5**	**15.8**		**1.53**
Molybdenum	**7439-98-7**	**1.87**		**0.290**
Nickel	**7440-02-0**	**1.36**		**0.527**
Selenium	**7782-49-2**	**0.176**		**0.00724**
Thallium	**7440-28-0**	**9.18E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0428**
Zinc	7440-66-6	13.6	U	62.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062724-HM
Matrix: Air
Lab ID: 4070847-03
Sample Volume: 1957.193 m³
Filter ID:
Sampled: 06/27/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 22:42

Comments: Q8520649 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0688**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.301**		**0.00779**
Barium	**7440-39-3**	**3.73**		**0.889**
Beryllium	**7440-41-7**	**0.0338**		**0.00266**
Cadmium	7440-43-9	0.00760	U	0.0616
Chromium	**7440-47-3**	**2.72**		**1.84**
Cobalt	**7440-48-4**	**0.579**		**0.0362**
Copper	**7440-50-8**	**70.5**		**2.19**
Lead	**7439-92-1**	**0.488**		**0.178**
Manganese	**7439-96-5**	**15.0**		**1.57**
Molybdenum	**7439-98-7**	**1.80**		**0.298**
Nickel	**7440-02-0**	**1.52**		**0.542**
Selenium	**7782-49-2**	**0.169**		**0.00745**
Thallium	**7440-28-0**	**0.00101**		**4.90E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0440**
Zinc	7440-66-6	26.3	U	63.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062824-HM
Matrix: Air
Lab ID: 4070847-05
Sample Volume: 1943.91 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 22:52

Comments: Q8520642 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.166**	SL	**0.0323**
Barium	**7440-39-3**	**6.20**		**0.896**
Beryllium	**7440-41-7**	**0.0200**		**0.00268**
Chromium	**7440-47-3**	**5.07**		**1.85**
Cobalt	**7440-48-4**	**1.00**		**0.0365**
Copper	**7440-50-8**	**131**		**2.20**
Lead	**7439-92-1**	**0.444**		**0.179**
Manganese	**7439-96-5**	**24.0**		**1.58**
Nickel	**7440-02-0**	**3.11**		**0.546**
Thallium	**7440-28-0**	**0.00115**		**4.93E-4**
Vanadium	**7440-62-2**	**2.62**		**0.0443**
Zinc	7440-66-6	32.6	U	64.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062824-HM
Matrix: Air
Lab ID: 4070847-05RE1
Sample Volume: 1943.91 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/12/24 00:06

Comments: Q8520642 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**2.67**		**0.0157**
Cadmium	7440-43-9	0.0191	U	0.124
Molybdenum	**7439-98-7**	**3.87**		**0.601**
Selenium	**7782-49-2**	**0.154**		**0.0150**

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062824-HM
Matrix: Air
Lab ID: 4070847-06
Sample Volume: 2067.993 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 18:53

Comments: Q8520641 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0304**
Barium	**7440-39-3**	**5.17**		**0.842**
Beryllium	**7440-41-7**	**0.0187**		**0.00252**
Chromium	**7440-47-3**	**3.16**		**1.74**
Cobalt	**7440-48-4**	**0.634**		**0.0343**
Copper	**7440-50-8**	**97.9**		**2.07**
Lead	**7439-92-1**	**1.09**		**0.168**
Manganese	**7439-96-5**	**19.2**		**1.49**
Nickel	**7440-02-0**	**2.00**		**0.513**
Thallium	**7440-28-0**	**0.00113**		**4.63E-4**
Vanadium	**7440-62-2**	**1.93**		**0.0416**
Zinc	7440-66-6	22.3	U	60.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062824-HM
Matrix: Air
Lab ID: 4070847-06RE1
Sample Volume: 2067.993 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 23:04

Comments: Q8520641 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.589**		**0.0369**
Cadmium	7440-43-9	0.0160	U	0.291
Molybdenum	**7439-98-7**	**2.45**		**1.41**
Selenium	**7782-49-2**	**0.172**		**0.0352**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062824-HM
Matrix: Air
Lab ID: 4070847-07
Sample Volume: 1977.758 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:02

Comments: Q8520640 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0558**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.232**		**0.00771**
Barium	**7440-39-3**	**3.56**		**0.880**
Beryllium	**7440-41-7**	**0.0329**		**0.00263**
Cadmium	7440-43-9	0.00945	U	0.0610
Chromium	**7440-47-3**	**3.03**		**1.82**
Cobalt	**7440-48-4**	**0.673**		**0.0359**
Copper	**7440-50-8**	**121**		**2.16**
Lead	**7439-92-1**	**0.299**		**0.176**
Manganese	**7439-96-5**	**16.4**		**1.55**
Molybdenum	**7439-98-7**	**2.45**		**0.295**
Nickel	**7440-02-0**	**1.86**		**0.536**
Selenium	**7782-49-2**	**0.168**		**0.00737**
Thallium	**7440-28-0**	**9.44E-4**		**4.85E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0435**
Zinc	7440-66-6	12.2	U	63.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062824-HM
Matrix: Air
Lab ID: 4070847-08
Sample Volume: 1715.765 m³
Filter ID:
Sampled: 06/28/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:13

Comments: Q8520639 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0366**
Arsenic	**7440-38-2**	**0.530**		**0.00889**
Barium	**7440-39-3**	**5.03**		**1.01**
Beryllium	**7440-41-7**	**0.0192**		**0.00303**
Cadmium	7440-43-9	0.0121	U	0.0703
Chromium	**7440-47-3**	**3.41**		**2.10**
Cobalt	**7440-48-4**	**0.700**		**0.0413**
Copper	**7440-50-8**	**41.9**		**2.49**
Lead	**7439-92-1**	**1.13**		**0.203**
Manganese	**7439-96-5**	**20.7**		**1.79**
Molybdenum	**7439-98-7**	**1.32**		**0.340**
Nickel	**7440-02-0**	**2.25**		**0.618**
Selenium	**7782-49-2**	**0.181**		**0.00850**
Thallium	**7440-28-0**	**0.00102**		**5.59E-4**
Vanadium	**7440-62-2**	**1.88**		**0.0502**
Zinc	7440-66-6	21.8	U	72.8

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062824-HM
Matrix: Air
Lab ID: 4070847-09
Sample Volume: 1943.91 m³
Filter ID:
Sampled: 06/28/24 00:00
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:23

Comments: Q8520634 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0194	SL, U	0.0323
Arsenic	**7440-38-2**	**0.00790**	FB-01	**0.00784**
Barium	7440-39-3	0.785	U	0.896
Beryllium	7440-41-7	5.01E-4	U	0.00268
Cadmium	7440-43-9	0.00409	U	0.0620
Chromium	7440-47-3	0.920	U	1.85
Cobalt	7440-48-4	0.0120	U	0.0365
Copper	**7440-50-8**	**3.26**	FB-01	**2.20**
Lead	7439-92-1	0.0270	U	0.179
Manganese	7439-96-5	0.219	U	1.58
Molybdenum	7439-98-7	0.246	U	0.300
Nickel	7440-02-0	0.428	U	0.546
Selenium	7782-49-2	ND	U	0.00750
Thallium	7440-28-0	1.02E-4	U	4.93E-4
Vanadium	7440-62-2	0.00891	U	0.0443
Zinc	7440-66-6	11.6	U	64.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062924-HM
Matrix: Air
Lab ID: 4070847-10
Sample Volume: 1852.656 m³
Filter ID:
Sampled: 06/29/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:34

Comments: Q8520638 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0716**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.674**		**0.00823**
Barium	**7440-39-3**	**5.32**		**0.940**
Beryllium	**7440-41-7**	**0.0197**		**0.00281**
Cadmium	7440-43-9	0.0172	U	0.0651
Chromium	**7440-47-3**	**4.42**		**1.94**
Cobalt	**7440-48-4**	**1.06**		**0.0383**
Copper	**7440-50-8**	**132**		**2.31**
Lead	**7439-92-1**	**0.489**		**0.188**
Manganese	**7439-96-5**	**23.8**		**1.66**
Molybdenum	**7439-98-7**	**5.23**		**0.315**
Nickel	**7440-02-0**	**3.87**		**0.573**
Selenium	**7782-49-2**	**0.142**		**0.00787**
Thallium	**7440-28-0**	**0.00112**		**5.17E-4**
Vanadium	**7440-62-2**	**2.73**		**0.0465**
Zinc	7440-66-6	25.3	U	67.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062924-HM
Matrix: Air
Lab ID: 4070847-11
Sample Volume: 1894.398 m³
Filter ID:
Sampled: 06/29/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:44

Comments: Q8520636 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.179**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.368**		**0.00805**
Barium	**7440-39-3**	**4.32**		**0.919**
Beryllium	**7440-41-7**	**0.00758**		**0.00275**
Cadmium	7440-43-9	0.0164	U	0.0636
Chromium	7440-47-3	1.85	U	1.90
Cobalt	**7440-48-4**	**0.242**		**0.0374**
Copper	**7440-50-8**	**33.6**		**2.26**
Lead	**7439-92-1**	**0.672**		**0.184**
Manganese	**7439-96-5**	**7.19**		**1.62**
Molybdenum	**7439-98-7**	**1.60**		**0.308**
Nickel	**7440-02-0**	**1.21**		**0.560**
Selenium	**7782-49-2**	**0.0987**		**0.00770**
Thallium	**7440-28-0**	**6.77E-4**		**5.06E-4**
Vanadium	**7440-62-2**	**0.902**		**0.0454**
Zinc	7440-66-6	19.3	U	66.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062924-HM
Matrix: Air
Lab ID: 4070847-12
Sample Volume: 1956.146 m³
Filter ID:
Sampled: 06/29/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 23:54

Comments: Q8520635 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0565**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.173**		**0.00779**
Barium	**7440-39-3**	**2.08**		**0.890**
Beryllium	**7440-41-7**	**0.0119**		**0.00266**
Cadmium	7440-43-9	0.00950	U	0.0616
Chromium	7440-47-3	1.79	U	1.84
Cobalt	**7440-48-4**	**0.227**		**0.0363**
Copper	**7440-50-8**	**57.5**		**2.19**
Lead	**7439-92-1**	**0.259**		**0.178**
Manganese	**7439-96-5**	**5.75**		**1.57**
Molybdenum	**7439-98-7**	**2.28**		**0.299**
Nickel	**7440-02-0**	**1.08**		**0.542**
Selenium	**7782-49-2**	**0.106**		**0.00745**
Thallium	**7440-28-0**	**5.71E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**0.759**		**0.0440**
Zinc	7440-66-6	12.0	U	63.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062924-HM
Matrix: Air
Lab ID: 4070847-13
Sample Volume: 1710.45 m³
Filter ID:
Sampled: 06/29/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 00:25

Comments: Q8520633 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0367**
Arsenic	**7440-38-2**	**0.324**		**0.00891**
Barium	**7440-39-3**	**3.64**		**1.02**
Beryllium	**7440-41-7**	**0.00954**		**0.00304**
Cadmium	7440-43-9	0.00946	U	0.0705
Chromium	7440-47-3	1.99	U	2.10
Cobalt	**7440-48-4**	**0.336**		**0.0415**
Copper	**7440-50-8**	**33.3**		**2.50**
Lead	**7439-92-1**	**0.642**		**0.204**
Manganese	**7439-96-5**	**12.2**		**1.80**
Molybdenum	**7439-98-7**	**1.44**		**0.341**
Nickel	**7440-02-0**	**1.30**		**0.620**
Selenium	**7782-49-2**	**0.106**		**0.00852**
Thallium	**7440-28-0**	**8.13E-4**		**5.60E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0503**
Zinc	7440-66-6	15.3	U	73.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-063024-HM
Matrix: Air
Lab ID: 4070847-14
Sample Volume: 1918.636 m³
Filter ID:
Sampled: 06/30/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 00:36

Comments: Q8520632 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0870**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.487**		**0.00795**
Barium	**7440-39-3**	**3.07**		**0.907**
Beryllium	**7440-41-7**	**0.00812**		**0.00271**
Cadmium	7440-43-9	0.0179	U	0.0628
Chromium	**7440-47-3**	**2.29**		**1.87**
Cobalt	**7440-48-4**	**0.370**		**0.0370**
Copper	**7440-50-8**	**119**		**2.23**
Lead	**7439-92-1**	**0.361**		**0.181**
Manganese	**7439-96-5**	**10.2**		**1.60**
Molybdenum	**7439-98-7**	**5.36**		**0.304**
Nickel	**7440-02-0**	**1.51**		**0.553**
Selenium	**7782-49-2**	**0.138**		**0.00760**
Thallium	**7440-28-0**	**8.57E-4**		**4.99E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0449**
Zinc	7440-66-6	11.3	U	65.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-063024-HM
Matrix: Air
Lab ID: 4070847-15
Sample Volume: 2015.996 m³
Filter ID:
Sampled: 06/30/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 00:57

Comments: Q8520631 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.240**		**0.00756**
Barium	**7440-39-3**	**3.63**		**0.864**
Beryllium	**7440-41-7**	**0.00838**		**0.00258**
Cadmium	7440-43-9	0.00922	U	0.0598
Chromium	7440-47-3	1.70	U	1.78
Cobalt	**7440-48-4**	**0.256**		**0.0352**
Copper	**7440-50-8**	**45.3**		**2.12**
Lead	**7439-92-1**	**0.594**		**0.173**
Manganese	**7439-96-5**	**7.93**		**1.53**
Molybdenum	**7439-98-7**	**2.21**		**0.290**
Nickel	**7440-02-0**	**1.15**		**0.526**
Selenium	**7782-49-2**	**0.137**		**0.00723**
Thallium	**7440-28-0**	**7.82E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0427**
Zinc	7440-66-6	12.7	U	62.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-063024-HM
Matrix: Air
Lab ID: 4070847-16
Sample Volume: 1981.809 m³
Filter ID:
Sampled: 06/30/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 01:07

Comments: Q8520630 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0579**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.201**		**0.00769**
Barium	**7440-39-3**	**2.41**		**0.878**
Beryllium	**7440-41-7**	**0.0139**		**0.00263**
Cadmium	7440-43-9	0.0126	U	0.0608
Chromium	7440-47-3	1.80	U	1.81
Cobalt	**7440-48-4**	**0.242**		**0.0358**
Copper	**7440-50-8**	**49.7**		**2.16**
Lead	**7439-92-1**	**0.382**		**0.176**
Manganese	**7439-96-5**	**6.62**		**1.55**
Molybdenum	**7439-98-7**	**2.02**		**0.295**
Nickel	**7440-02-0**	**1.15**		**0.535**
Selenium	**7782-49-2**	**0.129**		**0.00736**
Thallium	**7440-28-0**	**7.48E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0434**
Zinc	7440-66-6	17.7	U	63.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-063024-HM
Matrix: Air
Lab ID: 4070847-17
Sample Volume: 1783.719 m³
Filter ID:
Sampled: 06/30/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 01:17

Comments: Q8520629 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.430**		**0.00855**
Barium	**7440-39-3**	**4.12**		**0.976**
Beryllium	**7440-41-7**	**0.0135**		**0.00292**
Cadmium	7440-43-9	0.0180	U	0.0676
Chromium	**7440-47-3**	**2.52**		**2.02**
Cobalt	**7440-48-4**	**0.449**		**0.0398**
Copper	**7440-50-8**	**36.7**		**2.40**
Lead	**7439-92-1**	**1.06**		**0.195**
Manganese	**7439-96-5**	**14.8**		**1.72**
Molybdenum	**7439-98-7**	**1.78**		**0.327**
Nickel	**7440-02-0**	**1.67**		**0.595**
Selenium	**7782-49-2**	**0.174**		**0.00817**
Thallium	**7440-28-0**	**9.23E-4**		**5.37E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0483**
Zinc	7440-66-6	20.1	U	70.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-063024-HM
Matrix: Air
Lab ID: 4070847-18
Sample Volume: 1918.636 m³
Filter ID:
Sampled: 06/30/24 00:00
Received: 07/08/24 13:01
Analysis Date: 07/11/24 01:28

Comments: Q8520626 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0197	SL, U	0.0327
Arsenic	7440-38-2	0.00632	U	0.00795
Barium	7440-39-3	0.891	U	0.907
Beryllium	7440-41-7	5.23E-4	U	0.00271
Cadmium	7440-43-9	9.60E-4	U	0.0628
Chromium	7440-47-3	0.891	U	1.87
Cobalt	7440-48-4	0.0108	U	0.0370
Copper	7440-50-8	0.714	U	2.23
Lead	7439-92-1	0.0268	U	0.181
Manganese	7439-96-5	0.169	U	1.60
Molybdenum	7439-98-7	0.158	U	0.304
Nickel	7440-02-0	0.411	U	0.553
Selenium	7782-49-2	ND	U	0.00760
Thallium	7440-28-0	6.77E-5	U	4.99E-4
Vanadium	7440-62-2	0.00608	U	0.0449
Zinc	7440-66-6	7.57	U	65.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070124-HM
Matrix: Air
Lab ID: 4070847-19
Sample Volume: 1989.787 m³
Filter ID:
Sampled: 07/01/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 01:38

Comments: Q8520628 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0550**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.328**		**0.00766**
Barium	**7440-39-3**	**2.47**		**0.875**
Beryllium	**7440-41-7**	**0.00639**		**0.00262**
Cadmium	7440-43-9	0.0131	U	0.0606
Chromium	**7440-47-3**	**2.20**		**1.81**
Cobalt	**7440-48-4**	**0.304**		**0.0357**
Copper	**7440-50-8**	**109**		**2.15**
Lead	**7439-92-1**	**0.233**		**0.175**
Manganese	**7439-96-5**	**7.91**		**1.55**
Molybdenum	**7439-98-7**	**3.39**		**0.294**
Nickel	**7440-02-0**	**1.37**		**0.533**
Selenium	**7782-49-2**	**0.0913**		**0.00733**
Thallium	**7440-28-0**	**6.45E-4**		**4.82E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0433**
Zinc	7440-66-6	19.8	U	62.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070124-HM
Matrix: Air
Lab ID: 4070847-20
Sample Volume: 2000.889 m³
Filter ID:
Sampled: 07/01/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 01:49

Comments: Q8520627 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.309**		**0.00762**
Barium	**7440-39-3**	**3.79**		**0.870**
Beryllium	**7440-41-7**	**0.00958**		**0.00260**
Cadmium	7440-43-9	0.0128	U	0.0603
Chromium	**7440-47-3**	**1.94**		**1.80**
Cobalt	**7440-48-4**	**0.307**		**0.0355**
Copper	**7440-50-8**	**44.2**		**2.14**
Lead	**7439-92-1**	**0.705**		**0.174**
Manganese	**7439-96-5**	**8.96**		**1.54**
Molybdenum	**7439-98-7**	**2.03**		**0.292**
Nickel	**7440-02-0**	**1.46**		**0.530**
Selenium	**7782-49-2**	**0.155**		**0.00729**
Thallium	**7440-28-0**	**9.58E-4**		**4.79E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0430**
Zinc	7440-66-6	40.5	U	62.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070124-HM
Matrix: Air
Lab ID: 4070847-21
Sample Volume: 1931.28 m³
Filter ID:
Sampled: 07/01/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 02:20

Comments: Q8520625 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0643**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.231**		**0.00789**
Barium	**7440-39-3**	**2.79**		**0.901**
Beryllium	**7440-41-7**	**0.0156**		**0.00270**
Cadmium	7440-43-9	0.0125	U	0.0624
Chromium	**7440-47-3**	**2.07**		**1.86**
Cobalt	**7440-48-4**	**0.310**		**0.0367**
Copper	**7440-50-8**	**60.4**		**2.22**
Lead	**7439-92-1**	**0.522**		**0.180**
Manganese	**7439-96-5**	**8.10**		**1.59**
Molybdenum	**7439-98-7**	**2.71**		**0.302**
Nickel	**7440-02-0**	**1.23**		**0.549**
Selenium	**7782-49-2**	**0.143**		**0.00755**
Thallium	**7440-28-0**	**9.17E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**0.998**		**0.0446**
Zinc	7440-66-6	24.3	U	64.7

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070124-HM
Matrix: Air
Lab ID: 4070847-22
Sample Volume: 1774.054 m³
Filter ID:
Sampled: 07/01/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 02:40

Comments: Q8520622 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.400**		**0.00859**
Barium	**7440-39-3**	**3.69**		**0.981**
Beryllium	**7440-41-7**	**0.0131**		**0.00293**
Cadmium	7440-43-9	0.0151	U	0.0680
Chromium	**7440-47-3**	**2.32**		**2.03**
Cobalt	**7440-48-4**	**0.415**		**0.0400**
Copper	**7440-50-8**	**45.9**		**2.41**
Lead	**7439-92-1**	**1.01**		**0.196**
Manganese	**7439-96-5**	**13.6**		**1.73**
Molybdenum	**7439-98-7**	**2.74**		**0.329**
Nickel	**7440-02-0**	**1.46**		**0.598**
Selenium	**7782-49-2**	**0.152**		**0.00822**
Thallium	**7440-28-0**	**0.00102**		**5.40E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0485**
Zinc	7440-66-6	20.1	U	70.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070224-HM
Matrix: Air
Lab ID: 4070847-23
Sample Volume: 1872.996 m³
Filter ID:
Sampled: 07/02/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 02:51

Comments: Q8520621 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0335**
Arsenic	**7440-38-2**	**3.51**		**0.00814**
Barium	**7440-39-3**	**7.01**		**0.929**
Beryllium	**7440-41-7**	**0.0214**		**0.00278**
Cadmium	7440-43-9	0.0245	U	0.0644
Chromium	**7440-47-3**	**5.46**		**1.92**
Cobalt	**7440-48-4**	**1.10**		**0.0379**
Copper	**7440-50-8**	**109**		**2.28**
Lead	**7439-92-1**	**0.486**		**0.186**
Manganese	**7439-96-5**	**26.1**		**1.64**
Molybdenum	**7439-98-7**	**4.40**		**0.312**
Nickel	**7440-02-0**	**3.20**		**0.566**
Selenium	**7782-49-2**	**0.166**		**0.00778**
Thallium	**7440-28-0**	**0.00142**		**5.12E-4**
Vanadium	**7440-62-2**	**3.00**		**0.0460**
Zinc	7440-66-6	25.0	U	66.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070224-HM
Matrix: Air
Lab ID: 4070847-24
Sample Volume: 1995.181 m³
Filter ID:
Sampled: 07/02/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:01

Comments: Q8520620 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.158**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.904**		**0.00764**
Barium	**7440-39-3**	**5.91**		**0.873**
Beryllium	**7440-41-7**	**0.0193**		**0.00261**
Cadmium	7440-43-9	0.0179	U	0.0604
Chromium	**7440-47-3**	**3.14**		**1.80**
Cobalt	**7440-48-4**	**0.676**		**0.0356**
Copper	**7440-50-8**	**44.0**		**2.14**
Lead	**7439-92-1**	**1.89**		**0.175**
Manganese	**7439-96-5**	**19.2**		**1.54**
Molybdenum	**7439-98-7**	**1.92**		**0.293**
Nickel	**7440-02-0**	**2.20**		**0.532**
Selenium	**7782-49-2**	**0.177**		**0.00731**
Thallium	**7440-28-0**	**0.00107**		**4.80E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0431**
Zinc	7440-66-6	31.5	U	62.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070224-HM
Matrix: Air
Lab ID: 4070847-25
Sample Volume: 2004.242 m³
Filter ID:
Sampled: 07/02/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:12

Comments: Q8520618 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0544**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.215**		**0.00761**
Barium	**7440-39-3**	**2.88**		**0.869**
Beryllium	**7440-41-7**	**0.0180**		**0.00260**
Cadmium	7440-43-9	0.00621	U	0.0602
Chromium	**7440-47-3**	**2.24**		**1.79**
Cobalt	**7440-48-4**	**0.419**		**0.0354**
Copper	**7440-50-8**	**66.2**		**2.13**
Lead	**7439-92-1**	**0.469**		**0.174**
Manganese	**7439-96-5**	**10.1**		**1.53**
Molybdenum	**7439-98-7**	**3.78**		**0.291**
Nickel	**7440-02-0**	**1.31**		**0.529**
Selenium	**7782-49-2**	**0.145**		**0.00727**
Thallium	**7440-28-0**	**6.87E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0429**
Zinc	7440-66-6	17.0	U	62.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070224-HM
Matrix: Air
Lab ID: 4070847-26
Sample Volume: 1784.463 m³
Filter ID:
Sampled: 07/02/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/10/24 20:58

Comments: Q8520617 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0352**
Arsenic	**7440-38-2**	**1.40**		**0.00854**
Barium	**7440-39-3**	**3.80**		**0.976**
Beryllium	**7440-41-7**	**0.0133**		**0.00292**
Cadmium	7440-43-9	0.0190	U	0.0676
Chromium	**7440-47-3**	**2.96**		**2.01**
Cobalt	**7440-48-4**	**0.468**		**0.0398**
Copper	**7440-50-8**	**39.4**	QM-07	**2.40**
Lead	**7439-92-1**	**0.844**		**0.195**
Manganese	**7439-96-5**	**15.0**	QM-07	**1.72**
Molybdenum	**7439-98-7**	**2.31**		**0.327**
Nickel	**7440-02-0**	**1.47**		**0.594**
Selenium	**7782-49-2**	**0.147**		**0.00817**
Thallium	**7440-28-0**	**8.51E-4**		**5.37E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0482**
Zinc	7440-66-6	27.1	U	70.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-070224-HM
Matrix: Air
Lab ID: 4070847-27
Sample Volume: 1872.996 m³
Filter ID:
Sampled: 07/02/24 00:00
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:22

Comments: Q8520610 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0212	SL, U	0.0335
Arsenic	**7440-38-2**	**0.212**	FB-01	**0.00814**
Barium	7440-39-3	0.867	U	0.929
Beryllium	7440-41-7	6.77E-4	U	0.00278
Cadmium	7440-43-9	8.58E-4	U	0.0644
Chromium	7440-47-3	1.04	U	1.92
Cobalt	7440-48-4	0.0214	U	0.0379
Copper	7440-50-8	0.542	U	2.28
Lead	7439-92-1	0.0338	U	0.186
Manganese	7439-96-5	0.307	U	1.64
Molybdenum	7439-98-7	0.148	U	0.312
Nickel	7440-02-0	0.467	U	0.566
Selenium	7782-49-2	ND	U	0.00778
Thallium	7440-28-0	1.24E-4	U	5.12E-4
Vanadium	7440-62-2	0.0185	U	0.0460
Zinc	7440-66-6	29.8	U	66.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070324-HM
Matrix: Air
Lab ID: 4070847-28
Sample Volume: 1924.825 m³
Filter ID:
Sampled: 07/03/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:32

Comments: Q8520613 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0728**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.692**		**0.00792**
Barium	**7440-39-3**	**6.38**		**0.904**
Beryllium	**7440-41-7**	**0.0221**		**0.00270**
Cadmium	7440-43-9	0.0105	U	0.0626
Chromium	**7440-47-3**	**4.84**		**1.87**
Cobalt	**7440-48-4**	**1.14**		**0.0369**
Copper	**7440-50-8**	**93.8**		**2.22**
Lead	**7439-92-1**	**0.358**		**0.181**
Manganese	**7439-96-5**	**26.8**		**1.60**
Molybdenum	**7439-98-7**	**4.30**		**0.303**
Nickel	**7440-02-0**	**3.11**		**0.551**
Selenium	**7782-49-2**	**0.178**		**0.00757**
Thallium	**7440-28-0**	**0.00132**		**4.98E-4**
Vanadium	**7440-62-2**	**3.21**		**0.0447**
Zinc	7440-66-6	22.2	U	64.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070324-HM
Matrix: Air
Lab ID: 4070847-29
Sample Volume: 1996.692 m³
Filter ID:
Sampled: 07/03/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:43

Comments: Q8520611 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.179**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.577**		**0.00764**
Barium	**7440-39-3**	**4.30**		**0.872**
Beryllium	**7440-41-7**	**0.0114**		**0.00261**
Cadmium	7440-43-9	0.0133	U	0.0604
Chromium	**7440-47-3**	**1.94**		**1.80**
Cobalt	**7440-48-4**	**0.362**		**0.0355**
Copper	**7440-50-8**	**43.1**		**2.14**
Lead	**7439-92-1**	**1.52**		**0.174**
Manganese	**7439-96-5**	**10.7**		**1.54**
Molybdenum	**7439-98-7**	**1.76**		**0.293**
Nickel	**7440-02-0**	**1.36**		**0.531**
Selenium	**7782-49-2**	**0.150**		**0.00730**
Thallium	**7440-28-0**	**7.67E-4**		**4.80E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0431**
Zinc	7440-66-6	22.7	U	62.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070324-HM
Matrix: Air
Lab ID: 4070847-30
Sample Volume: 2042.28 m³
Filter ID:
Sampled: 07/03/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 03:53

Comments: Q8520609 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0674**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.321**		**0.00746**
Barium	**7440-39-3**	**3.42**		**0.852**
Beryllium	**7440-41-7**	**0.0232**		**0.00255**
Cadmium	7440-43-9	0.00912	U	0.0590
Chromium	**7440-47-3**	**2.48**		**1.76**
Cobalt	**7440-48-4**	**0.468**		**0.0347**
Copper	**7440-50-8**	**52.6**		**2.10**
Lead	**7439-92-1**	**0.708**		**0.170**
Manganese	**7439-96-5**	**12.1**		**1.51**
Molybdenum	**7439-98-7**	**3.13**		**0.286**
Nickel	**7440-02-0**	**1.49**		**0.519**
Selenium	**7782-49-2**	**0.146**		**0.00714**
Thallium	**7440-28-0**	**8.45E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**1.29**		**0.0421**
Zinc	7440-66-6	19.7	U	61.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070324-HM
Matrix: Air
Lab ID: 4070847-31
Sample Volume: 1821.282 m³
Filter ID:
Sampled: 07/03/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/11/24 04:24

Comments: Q8520608 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.523**		**0.00837**
Barium	**7440-39-3**	**4.94**		**0.956**
Beryllium	**7440-41-7**	**0.0171**		**0.00286**
Cadmium	7440-43-9	0.0136	U	0.0662
Chromium	**7440-47-3**	**2.79**		**1.97**
Cobalt	**7440-48-4**	**0.564**		**0.0389**
Copper	**7440-50-8**	**39.3**		**2.35**
Manganese	**7439-96-5**	**18.2**		**1.69**
Molybdenum	**7439-98-7**	**2.56**		**0.321**
Nickel	**7440-02-0**	**1.72**		**0.582**
Selenium	**7782-49-2**	**0.168**		**0.00800**
Vanadium	**7440-62-2**	**1.53**		**0.0473**
Zinc	7440-66-6	20.7	U	68.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070324-HM
Matrix: Air
Lab ID: 4070847-31RE1
Sample Volume: 1821.282 m³
Filter ID:
Sampled: 07/03/24 23:59
Received: 07/08/24 13:01
Analysis Date: 07/12/24 00:16

Comments: Q8520608 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Lead	**7439-92-1**	**0.863**		**0.382**
Thallium	7440-28-0	8.50E-4	U	0.00105

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Blank (2407034-CCB1)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.829		ng/l							
Arsenic	1.22		ng/l							
Barium	0.433		ng/l							
Beryllium	0.0509		ng/l							
Cadmium	0.180		ng/l							
Chromium	2.32		ng/l							
Cobalt	-0.00733		ng/l							U
Copper	27.9		ng/l							
Lead	10.2		ng/l							
Manganese	2.62		ng/l							
Molybdenum	15.5		ng/l							
Nickel	-1.19		ng/l							U
Selenium	-14.3		ng/l							U
Thallium	1.30		ng/l							
Vanadium	-50.4		ng/l							U
Zinc	6.71		ng/l							
Calibration Blank (2407034-CCB2)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.398		ng/l							
Arsenic	1.49		ng/l							
Barium	-0.181		ng/l							U
Beryllium	-0.428		ng/l							U
Cadmium	0.151		ng/l							
Chromium	1.01		ng/l							
Cobalt	0.00571		ng/l							
Copper	5.41		ng/l							
Lead	5.58		ng/l							
Manganese	0.348		ng/l							
Molybdenum	6.52		ng/l							
Nickel	-0.846		ng/l							U
Selenium	-15.9		ng/l							U
Thallium	1.14		ng/l							
Vanadium	-52.0		ng/l							U
Zinc	11.3		ng/l							
Calibration Blank (2407034-CCB3)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.670		ng/l							
Arsenic	1.06		ng/l							
Barium	0.185		ng/l							
Beryllium	-0.379		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Blank (2407034-CCB3) Contin				Prepared: 07/09/24 Analyzed: 07/10/24						
Cadmium	0.0210		ng/l							
Chromium	1.02		ng/l							
Cobalt	-0.148		ng/l							U
Copper	7.64		ng/l							
Lead	6.68		ng/l							
Manganese	0.485		ng/l							
Molybdenum	5.67		ng/l							
Nickel	-0.430		ng/l							U
Selenium	-13.6		ng/l							U
Thallium	0.868		ng/l							
Vanadium	-57.2		ng/l							U
Zinc	12.3		ng/l							
Calibration Blank (2407034-CCB4)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	0.535		ng/l							
Arsenic	0.213		ng/l							
Barium	0.444		ng/l							
Beryllium	-0.544		ng/l							U
Cadmium	0.0614		ng/l							
Chromium	1.15		ng/l							
Cobalt	-0.0955		ng/l							U
Copper	6.69		ng/l							
Lead	5.06		ng/l							
Manganese	-0.0572		ng/l							U
Molybdenum	6.88		ng/l							
Nickel	-0.209		ng/l							U
Selenium	-0.895		ng/l							U
Thallium	0.823		ng/l							
Vanadium	-57.8		ng/l							U
Zinc	7.74		ng/l							
Calibration Blank (2407034-CCB5)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	0.538		ng/l							
Arsenic	0.586		ng/l							
Barium	0.333		ng/l							
Beryllium	-0.265		ng/l							U
Cadmium	0.0471		ng/l							
Chromium	0.481		ng/l							
Cobalt	-0.0390		ng/l							U
Copper	7.79		ng/l							

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Blank (2407034-CCB5) Contin				Prepared: 07/09/24 Analyzed: 07/11/24						
Lead	5.08		ng/l							
Manganese	-0.193		ng/l							U
Molybdenum	7.67		ng/l							
Nickel	-0.507		ng/l							U
Selenium	-16.7		ng/l							U
Thallium	0.847		ng/l							
Vanadium	-58.2		ng/l							U
Zinc	14.8		ng/l							
Calibration Blank (2407034-CCB6)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	0.366		ng/l							
Arsenic	-0.162		ng/l							U
Barium	0.708		ng/l							
Beryllium	-0.360		ng/l							U
Cadmium	0.0473		ng/l							
Chromium	1.66		ng/l							
Cobalt	0.197		ng/l							
Copper	8.50		ng/l							
Lead	5.99		ng/l							
Manganese	0.311		ng/l							
Molybdenum	7.37		ng/l							
Nickel	0.0604		ng/l							
Selenium	-2.89		ng/l							U
Thallium	0.834		ng/l							
Vanadium	-60.0		ng/l							U
Zinc	15.8		ng/l							
Calibration Blank (2407034-CCB7)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	0.635		ng/l							
Arsenic	-0.406		ng/l							U
Barium	0.722		ng/l							
Beryllium	-0.537		ng/l							U
Cadmium	0.141		ng/l							
Chromium	1.28		ng/l							
Cobalt	0.126		ng/l							
Copper	10.1		ng/l							
Lead	7.25		ng/l							
Manganese	0.795		ng/l							
Molybdenum	7.75		ng/l							
Nickel	-0.777		ng/l							U

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Blank (2407034-CCB7) Contin					Prepared: 07/09/24 Analyzed: 07/11/24					
Selenium	-8.90		ng/l							U
Thallium	0.866		ng/l							
Vanadium	-62.7		ng/l							U
Zinc	11.4		ng/l							
Calibration Check (2407034-CCV1)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	48500		ng/l	50000		96.9	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2407034-CCV2)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	48400		ng/l	50000		96.8	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Check (2407034-CCV3)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	19700		ng/l	20000		98.6	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	48100		ng/l	50000		96.2	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	496		ng/l	500.00		99.2	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2407034-CCV4)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	48300		ng/l	50000		96.6	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2407034-CCV5)				Prepared: 07/09/24 Analyzed: 07/11/24						
Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19600		ng/l	20000		97.8	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Check (2407034-CCV5) Contin					Prepared: 07/09/24 Analyzed: 07/11/24					
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	48500		ng/l	50000		97.0	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		98.0	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2407034-CCV6)					Prepared: 07/09/24 Analyzed: 07/11/24					
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19600		ng/l	20000		97.9	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	48300		ng/l	50000		96.5	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2407034-CCV7)					Prepared: 07/09/24 Analyzed: 07/11/24					
Antimony	19700		ng/l	20000		98.7	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Calibration Check (2407034-CCV7) Contin				Prepared: 07/09/24 Analyzed: 07/11/24						
Lead	204000		ng/l	200000		102	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	48500		ng/l	50000		97.0	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	19500		ng/l	20000		97.5	90-110			
Thallium	496		ng/l	500.00		99.3	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	533000		ng/l	500000		107	90-110			
High Cal Check (2407034-HCV1)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	39800		ng/l	40000		99.5	95-105			
Barium	402000		ng/l	400000		100	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	39700		ng/l	40000		99.3	95-105			
Chromium	478000		ng/l	480000		99.5	95-105			
Cobalt	99400		ng/l	100000		99.4	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.7	95-105			
Lead	403000		ng/l	400000		101	95-105			
Manganese	996000		ng/l	1.0000E6		99.6	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	238000		ng/l	240000		99.3	95-105			
Selenium	39600		ng/l	40000		98.9	95-105			
Thallium	992		ng/l	1000.0		99.2	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2407034-ICB1)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.570		ng/l							
Arsenic	1.65		ng/l							
Barium	0.787		ng/l							
Beryllium	0.0928		ng/l							
Cadmium	0.0595		ng/l							
Chromium	4.02		ng/l							
Cobalt	-0.0989		ng/l							U
Copper	29.5		ng/l							
Lead	11.6		ng/l							
Manganese	3.83		ng/l							
Molybdenum	8.28		ng/l							
Nickel	-1.19		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Initial Cal Blank (2407034-ICB1) Continu					Prepared: 07/09/24 Analyzed: 07/10/24					
Selenium	-5.11		ng/l							U
Thallium	1.25		ng/l							
Vanadium	-51.7		ng/l							U
Zinc	11.0		ng/l							
Initial Cal Check (2407034-ICV1)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19400		ng/l	20000		97.2	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	48700		ng/l	50000		97.5	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	47500		ng/l	50000		95.0	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Thallium	496		ng/l	500.00		99.2	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2407034-IFA1)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	310000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407034 - B4G0909										
Interference Check B (2407034-IFB1)				Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	18800		ng/l	20000		93.9	80-120			
Arsenic	18700		ng/l	20000		93.5	80-120			
Barium	192000		ng/l	200000		96.1	80-120			
Beryllium	4450		ng/l	5000.0		89.0	80-120			
Cadmium	17900		ng/l	20000		89.5	80-120			
Chromium	229000		ng/l	240000		95.6	80-120			
Cobalt	45900		ng/l	50000		91.8	80-120			
Copper	1.76E6		ng/l	2.0000E6		87.8	80-120			
Lead	193000		ng/l	200000		96.7	80-120			
Manganese	471000		ng/l	500000		94.2	80-120			
Molybdenum	341000		ng/l	350000		97.4	80-120			
Nickel	106000		ng/l	120000		88.2	80-120			
Selenium	17000		ng/l	20000		84.8	80-120			
Thallium	473		ng/l	500.00		94.6	80-120			
Vanadium	19700		ng/l	20000		98.6	80-120			
Zinc	420000		ng/l	500000		83.9	80-120			
Batch 2407043 - B4G0909										
Calibration Blank (2407043-CCB1)				Prepared & Analyzed: 07/11/24						
Antimony	0.0768		ng/l							
Arsenic	1.37		ng/l							
Barium	0.295		ng/l							
Beryllium	0.0457		ng/l							
Cadmium	0.0335		ng/l							
Chromium	2.55		ng/l							
Cobalt	-0.0542		ng/l							U
Copper	55.4		ng/l							
Lead	5.46		ng/l							
Manganese	2.39		ng/l							
Molybdenum	1.35		ng/l							
Nickel	0.185		ng/l							
Selenium	-5.08		ng/l							U
Thallium	0.785		ng/l							
Vanadium	-37.8		ng/l							U
Zinc	97.1		ng/l							
Calibration Blank (2407043-CCB2)				Prepared & Analyzed: 07/11/24						
Antimony	0.379		ng/l							
Arsenic	0.400		ng/l							
Barium	0.0888		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Calibration Blank (2407043-CCB2) Contin				Prepared & Analyzed: 07/11/24						
Beryllium	0.00450		ng/l							
Cadmium	0.0447		ng/l							
Chromium	5.40		ng/l							
Cobalt	0.151		ng/l							
Copper	44.3		ng/l							
Lead	9.66		ng/l							
Manganese	3.68		ng/l							
Molybdenum	0.453		ng/l							
Nickel	0.369		ng/l							
Selenium	-1.50		ng/l							U
Thallium	1.12		ng/l							
Vanadium	-52.6		ng/l							U
Zinc	113		ng/l							
Calibration Blank (2407043-CCB3)				Prepared & Analyzed: 07/11/24						
Antimony	0.441		ng/l							
Arsenic	0.894		ng/l							
Barium	0.493		ng/l							
Beryllium	0.0503		ng/l							
Cadmium	0.0227		ng/l							
Chromium	6.74		ng/l							
Cobalt	0.0807		ng/l							
Copper	52.2		ng/l							
Lead	7.94		ng/l							
Manganese	2.17		ng/l							
Molybdenum	0.512		ng/l							
Nickel	0.645		ng/l							
Selenium	-8.25		ng/l							U
Thallium	1.19		ng/l							
Vanadium	-54.5		ng/l							U
Zinc	119		ng/l							
Calibration Blank (2407043-CCB4)				Prepared & Analyzed: 07/11/24						
Antimony	0.360		ng/l							
Arsenic	0.539		ng/l							
Barium	0.535		ng/l							
Beryllium	0.00555		ng/l							
Cadmium	0.0480		ng/l							
Chromium	5.35		ng/l							
Cobalt	0.0150		ng/l							

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Calibration Blank (2407043-CCB4) Contin				Prepared & Analyzed: 07/11/24						
Copper	51.6		ng/l							
Lead	8.18		ng/l							
Manganese	2.28		ng/l							
Molybdenum	1.30		ng/l							
Nickel	1.34		ng/l							
Selenium	-7.31		ng/l							U
Thallium	1.16		ng/l							
Vanadium	-52.3		ng/l							U
Zinc	98.3		ng/l							
Calibration Blank (2407043-CCB5)				Prepared: 07/11/24 Analyzed: 07/12/24						
Antimony	0.596		ng/l							
Arsenic	0.640		ng/l							
Barium	1.74		ng/l							
Beryllium	0.0968		ng/l							
Cadmium	0.102		ng/l							
Chromium	7.69		ng/l							
Cobalt	0.251		ng/l							
Copper	54.5		ng/l							
Lead	9.44		ng/l							
Manganese	4.74		ng/l							
Molybdenum	1.46		ng/l							
Nickel	2.04		ng/l							
Selenium	-16.0		ng/l							U
Thallium	1.17		ng/l							
Vanadium	-55.3		ng/l							U
Zinc	128		ng/l							
Calibration Blank (2407043-CCB6)				Prepared: 07/11/24 Analyzed: 07/12/24						
Antimony	0.530		ng/l							
Arsenic	-0.767		ng/l							U
Barium	2.04		ng/l							
Beryllium	0.00778		ng/l							
Cadmium	0.0535		ng/l							
Chromium	8.81		ng/l							
Cobalt	0.236		ng/l							
Copper	48.8		ng/l							
Lead	10.0		ng/l							
Manganese	4.93		ng/l							
Molybdenum	1.10		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2407043 - B4G0909

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Calibration Blank (2407043-CCB6) Contin				Prepared: 07/11/24 Analyzed: 07/12/24						
Nickel	1.36		ng/l							
Selenium	-1.22		ng/l							U
Thallium	1.11		ng/l							
Vanadium	-55.1		ng/l							U
Zinc	127		ng/l							
Calibration Check (2407043-CCV1)				Prepared & Analyzed: 07/11/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	48900		ng/l	50000		97.9	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2407043-CCV2)				Prepared & Analyzed: 07/11/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	4890		ng/l	5000.0		97.8	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49100		ng/l	50000		98.1	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Calibration Check (2407043-CCV2) Contin					Prepared & Analyzed: 07/11/24					
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2407043-CCV3)					Prepared & Analyzed: 07/11/24					
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	196000		ng/l	200000		98.0	90-110			
Beryllium	4790		ng/l	5000.0		95.7	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	493		ng/l	500.00		98.7	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2407043-CCV4)					Prepared & Analyzed: 07/11/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	196000		ng/l	200000		98.0	90-110			
Beryllium	4780		ng/l	5000.0		95.7	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	49200		ng/l	50000		98.3	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2407043-CCV5)					Prepared: 07/11/24 Analyzed: 07/12/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Calibration Check (2407043-CCV5) Contin					Prepared: 07/11/24 Analyzed: 07/12/24					
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4780		ng/l	5000.0		95.5	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2407043-CCV6)					Prepared: 07/11/24 Analyzed: 07/12/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	195000		ng/l	200000		97.6	90-110			
Beryllium	4730		ng/l	5000.0		94.5	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2407043-HCV1)					Prepared & Analyzed: 07/11/24					
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40200		ng/l	40000		101	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39800		ng/l	40000		99.6	95-105			
Chromium	478000		ng/l	480000		99.7	95-105			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
High Cal Check (2407043-HCV1) Continue					Prepared & Analyzed: 07/11/24					
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.2	95-105			
Lead	403000		ng/l	400000		101	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	240000		ng/l	240000		99.9	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	992000		ng/l	1.0000E6		99.2	95-105			
Initial Cal Blank (2407043-ICB1)					Prepared & Analyzed: 07/11/24					
Antimony	0.162		ng/l							
Arsenic	0.0207		ng/l							
Barium	0.665		ng/l							
Beryllium	0.00404		ng/l							
Cadmium	-0.00604		ng/l							U
Chromium	4.01		ng/l							
Cobalt	-0.0414		ng/l							U
Copper	39.1		ng/l							
Lead	7.40		ng/l							
Manganese	2.58		ng/l							
Molybdenum	0.145		ng/l							
Nickel	0.530		ng/l							
Selenium	-2.15		ng/l							U
Thallium	0.688		ng/l							
Vanadium	-38.2		ng/l							U
Zinc	98.0		ng/l							
Initial Cal Check (2407043-ICV1)					Prepared & Analyzed: 07/11/24					
Antimony	19700		ng/l	20000		98.6	90-110			
Arsenic	19500		ng/l	20000		97.6	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	49200		ng/l	50000		98.5	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	504000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Initial Cal Check (2407043-ICV1) Continu				Prepared & Analyzed: 07/11/24						
Molybdenum	47700		ng/l	50000		95.4	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2407043-IFA1)				Prepared & Analyzed: 07/11/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	316000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2407043-IFB1)				Prepared & Analyzed: 07/11/24						
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	204000		ng/l	200000		102	80-120			
Beryllium	4630		ng/l	5000.0		92.7	80-120			
Cadmium	19500		ng/l	20000		97.3	80-120			
Chromium	251000		ng/l	240000		105	80-120			
Cobalt	49400		ng/l	50000		98.8	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.3	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	510000		ng/l	500000		102	80-120			
Molybdenum	369000		ng/l	350000		105	80-120			
Nickel	114000		ng/l	120000		95.1	80-120			
Selenium	18500		ng/l	20000		92.7	80-120			
Thallium	524		ng/l	500.00		105	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407043 - B4G0909										
Interference Check B (2407043-IFB1) Co					Prepared & Analyzed: 07/11/24					
Vanadium	20600		ng/l	20000		103	80-120			
Zinc	449000		ng/l	500000		89.7	80-120			
Batch B4G0909 - ICP-MS Extraction										
Blank (B4G0909-BLK1)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G0909-BS1)					Prepared: 07/09/24 Analyzed: 07/10/24					
Antimony	0.459	0.0386	ng/m³ Air	1.3829		33.2	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.2	80-120			
Barium	27.7	1.07	ng/m³ Air	27.658		100	80-120			
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.6	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.6	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.44	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	29.6	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.2	80-120			
Manganese	8.55	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.13	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		98.1	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		96.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.6	80-120			
Zinc	93.1	76.8	ng/m³ Air	82.975		112	80-120			
LCS (B4G0909-BS2)					Prepared: 07/09/24 Analyzed: 07/10/24					

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Antimony	0.453	0.0386	ng/m³ Air	1.3829		32.8	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	27.8	1.07	ng/m³ Air	27.658		101	80-120			
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.4	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.9	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.45	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	30.2	2.63	ng/m³ Air	27.658		109	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.60	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.20	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.2	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.5	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.5	80-120			
Zinc	93.9	76.8	ng/m³ Air	82.975		113	80-120			
Duplicate (B4G0909-DUP1)		**Source: 4070847-06**		Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.134	0.0304	ng/m³ Air		0.129			4.18	10	SL
Arsenic	0.616	0.00737	ng/m³ Air		0.578			6.43	10	
Barium	5.54	0.842	ng/m³ Air		5.17			6.87	10	
Beryllium	0.0197	0.00252	ng/m³ Air		0.0187			5.56	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	4.62	1.74	ng/m³ Air		3.16			37.6	10	
Cobalt	0.680	0.0343	ng/m³ Air		0.634			6.92	10	
Copper	98.2	2.07	ng/m³ Air		97.9			0.314	10	
Lead	1.11	0.168	ng/m³ Air		1.09			2.16	10	
Manganese	20.4	1.49	ng/m³ Air		19.2			5.89	10	
Molybdenum	2.11	0.282	ng/m³ Air		2.06			2.81	10	
Nickel	2.84	0.513	ng/m³ Air		2.00			34.9	10	
Selenium	0.172	0.00705	ng/m³ Air		0.169			2.29	10	
Thallium	0.00124	4.63E-4	ng/m³ Air		0.00113			9.46	10	
Vanadium	2.05	0.0416	ng/m³ Air		1.93			6.08	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Duplicate (B4G0909-DUP2)		**Source: 4070847-26**		Prepared: 07/09/24 Analyzed: 07/10/24						
Antimony	0.111	0.0352	ng/m³ Air		0.110			0.490	10	SL
Arsenic	1.70	0.00854	ng/m³ Air		1.40			19.5	10	
Barium	4.18	0.976	ng/m³ Air		3.80			9.38	10	
Beryllium	0.0149	0.00292	ng/m³ Air		0.0133			11.6	10	
Cadmium	ND	0.0676	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Duplicate (B4G0909-DUP2) Continued			**Source: 4070847-26**		Prepared: 07/09/24 Analyzed: 07/10/24					
Chromium	3.60	2.01	ng/m³ Air		2.96			19.7	10	
Cobalt	0.501	0.0398	ng/m³ Air		0.468			6.77	10	
Copper	42.5	2.40	ng/m³ Air		39.4			7.66	10	
Lead	0.872	0.195	ng/m³ Air		0.844			3.23	10	
Manganese	16.0	1.72	ng/m³ Air		15.0			5.99	10	
Molybdenum	2.49	0.327	ng/m³ Air		2.31			7.66	10	
Nickel	1.72	0.594	ng/m³ Air		1.47			15.7	10	
Selenium	0.152	0.00817	ng/m³ Air		0.147			3.39	10	
Thallium	9.12E-4	5.37E-4	ng/m³ Air		8.51E-4			6.96	10	
Vanadium	1.33	0.0482	ng/m³ Air		1.23			7.62	10	
Zinc	ND	70.0	ng/m³ Air		ND				10	U
Duplicate (B4G0909-DUP3)			**Source: 4070847-14**		Prepared: 07/09/24 Analyzed: 07/11/24					
Antimony	0.0871	0.0327	ng/m³ Air		0.0870			0.0454	10	SL
Arsenic	0.479	0.00795	ng/m³ Air		0.487			1.52	10	
Barium	3.07	0.907	ng/m³ Air		3.07			0.0437	10	
Beryllium	0.00880	0.00271	ng/m³ Air		0.00812			8.10	10	
Cadmium	ND	0.0628	ng/m³ Air		ND				10	U
Chromium	2.30	1.87	ng/m³ Air		2.29			0.427	10	
Cobalt	0.372	0.0370	ng/m³ Air		0.370			0.749	10	
Copper	119	2.23	ng/m³ Air		119			0.486	10	
Lead	0.361	0.181	ng/m³ Air		0.361			0.137	10	
Manganese	10.2	1.60	ng/m³ Air		10.2			0.714	10	
Molybdenum	5.37	0.304	ng/m³ Air		5.36			0.192	10	
Nickel	1.52	0.553	ng/m³ Air		1.51			0.669	10	
Selenium	0.139	0.00760	ng/m³ Air		0.138			0.0779	10	
Thallium	9.30E-4	4.99E-4	ng/m³ Air		8.57E-4			8.18	10	
Vanadium	1.40	0.0449	ng/m³ Air		1.40			0.160	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	U
Duplicate (B4G0909-DUP4)			**Source: 4070847-21**		Prepared: 07/09/24 Analyzed: 07/11/24					
Antimony	0.0640	0.0325	ng/m³ Air		0.0643			0.391	10	SL
Arsenic	0.233	0.00789	ng/m³ Air		0.231			0.719	10	
Barium	2.80	0.901	ng/m³ Air		2.79			0.438	10	
Beryllium	0.0157	0.00270	ng/m³ Air		0.0156			0.681	10	
Cadmium	ND	0.0624	ng/m³ Air		ND				10	U
Chromium	2.09	1.86	ng/m³ Air		2.07			0.940	10	
Cobalt	0.311	0.0367	ng/m³ Air		0.310			0.343	10	
Copper	61.0	2.22	ng/m³ Air		60.4			0.950	10	
Lead	0.524	0.180	ng/m³ Air		0.522			0.249	10	

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REPORTED: 07/18/24 11:53
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Duplicate (B4G0909-DUP4) Continued		**Source: 4070847-21**		Prepared: 07/09/24	Analyzed: 07/11/24					
Manganese	8.09	1.59	ng/m³ Air		8.10			0.151	10	
Molybdenum	2.73	0.302	ng/m³ Air		2.71			0.840	10	
Nickel	1.23	0.549	ng/m³ Air		1.23			0.0848	10	
Selenium	0.149	0.00755	ng/m³ Air		0.143			3.67	10	
Thallium	8.52E-4	4.96E-4	ng/m³ Air		9.17E-4			7.43	10	
Vanadium	1.00	0.0446	ng/m³ Air		0.998			0.444	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4G0909-DUP5)		**Source: 4070847-06R**		Prepared: 07/09/24	Analyzed: 07/11/24					
Antimony	ND	0.152	ng/m³ Air		ND				10	U
Arsenic	0.619	0.0369	ng/m³ Air		0.589			5.06	10	
Barium	5.58	4.21	ng/m³ Air		5.36			4.00	10	
Beryllium	0.0173	0.0126	ng/m³ Air		0.0189			8.75	10	
Cadmium	ND	0.291	ng/m³ Air		ND				10	U
Chromium	ND	8.69	ng/m³ Air		ND				10	U
Cobalt	0.689	0.172	ng/m³ Air		0.665			3.45	10	
Copper	102	10.3	ng/m³ Air		104			1.16	10	
Lead	1.13	0.842	ng/m³ Air		1.14			0.826	10	
Manganese	20.5	7.43	ng/m³ Air		19.9			2.70	10	
Molybdenum	2.47	1.41	ng/m³ Air		2.45			0.695	10	
Nickel	2.91	2.56	ng/m³ Air		ND				10	
Selenium	0.170	0.0352	ng/m³ Air		0.172			1.60	10	
Thallium	ND	0.00232	ng/m³ Air		ND				10	U
Vanadium	1.96	0.208	ng/m³ Air		1.91			2.52	10	
Zinc	ND	302	ng/m³ Air		ND				10	U
Matrix Spike (B4G0909-MS1)		**Source: 4070847-06**		Prepared: 07/09/24	Analyzed: 07/10/24					
Antimony	0.734	0.0304	ng/m³ Air	1.0880	0.129	55.6	80-120			SL
Arsenic	2.63	0.00737	ng/m³ Air	2.1760	0.578	94.3	80-120			
Barium	26.1	0.842	ng/m³ Air	21.760	5.17	96.0	80-120			
Beryllium	1.08	0.00252	ng/m³ Air	1.0880	0.0187	98.0	80-120			
Cadmium	1.06	0.0583	ng/m³ Air	1.0880	ND	97.4	80-120			
Chromium	13.7	1.74	ng/m³ Air	10.880	3.16	96.5	80-120			
Cobalt	1.75	0.0343	ng/m³ Air	1.0880	0.634	102	80-120			
Copper	119	2.07	ng/m³ Air	21.760	97.9	95.9	80-120			
Lead	11.3	0.168	ng/m³ Air	10.880	1.09	93.9	80-120			
Manganese	26.5	1.49	ng/m³ Air	6.5281	19.2	112	80-120			
Molybdenum	2.86	0.282	ng/m³ Air	1.0880	2.06	74.0	80-120			QM-07
Nickel	4.14	0.513	ng/m³ Air	2.1760	2.00	98.7	80-120			
Selenium	2.10	0.00705	ng/m³ Air	2.1760	0.169	88.8	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Matrix Spike (B4G0909-MS1) Continued Source: 4070847-06 Prepared: 07/09/24 Analyzed: 07/10/24										
Thallium	0.0974	4.63E-4	ng/m³ Air	0.10880	0.00113	88.5	80-120			
Vanadium	4.15	0.0416	ng/m³ Air	2.1760	1.93	102	80-120			
Zinc	90.2	60.4	ng/m³ Air	65.281	ND	138	80-120			
Matrix Spike (B4G0909-MS2) Source: 4070847-26 Prepared: 07/09/24 Analyzed: 07/10/24										
Antimony	0.856	0.0352	ng/m³ Air	1.2609	0.110	59.2	80-120			SL
Arsenic	4.08	0.00854	ng/m³ Air	2.5218	1.40	106	80-120			
Barium	29.6	0.976	ng/m³ Air	25.218	3.80	102	80-120			
Beryllium	1.32	0.00292	ng/m³ Air	1.2609	0.0133	103	80-120			
Cadmium	1.32	0.0676	ng/m³ Air	1.2609	ND	105	80-120			
Chromium	16.5	2.01	ng/m³ Air	12.609	2.96	107	80-120			
Cobalt	1.88	0.0398	ng/m³ Air	1.2609	0.468	112	80-120			
Copper	71.4	2.40	ng/m³ Air	25.218	39.4	127	80-120			QM-07
Lead	13.8	0.195	ng/m³ Air	12.609	0.844	103	80-120			
Manganese	24.3	1.72	ng/m³ Air	7.5653	15.0	122	80-120			QM-07
Molybdenum	3.62	0.327	ng/m³ Air	1.2609	2.31	104	80-120			
Nickel	4.43	0.594	ng/m³ Air	2.5218	1.47	117	80-120			
Selenium	2.66	0.00817	ng/m³ Air	2.5218	0.147	99.8	80-120			
Thallium	0.126	5.37E-4	ng/m³ Air	0.12609	8.51E-4	99.1	80-120			
Vanadium	3.94	0.0482	ng/m³ Air	2.5218	1.23	107	80-120			
Zinc	111	70.0	ng/m³ Air	75.653	ND	147	80-120			
Matrix Spike (B4G0909-MS3) Source: 4070847-06R Prepared: 07/09/24 Analyzed: 07/11/24										
Antimony	0.739	0.152	ng/m³ Air	1.0880	ND	67.9	80-120			
Arsenic	2.71	0.0369	ng/m³ Air	2.1760	0.589	97.6	80-120			
Barium	26.9	4.21	ng/m³ Air	21.760	5.36	98.9	80-120			
Beryllium	1.03	0.0126	ng/m³ Air	1.0880	0.0189	92.6	80-120			
Cadmium	1.13	0.291	ng/m³ Air	1.0880	ND	104	80-120			
Chromium	14.0	8.69	ng/m³ Air	10.880	ND	128	80-120			
Cobalt	1.81	0.172	ng/m³ Air	1.0880	0.665	105	80-120			
Copper	128	10.3	ng/m³ Air	21.760	104	111	80-120			
Lead	11.7	0.842	ng/m³ Air	10.880	1.14	96.9	80-120			
Manganese	27.3	7.43	ng/m³ Air	6.5281	19.9	113	80-120			
Molybdenum	3.44	1.41	ng/m³ Air	1.0880	2.45	90.8	80-120			
Nickel	4.34	2.56	ng/m³ Air	2.1760	ND	200	80-120			
Selenium	2.26	0.0352	ng/m³ Air	2.1760	0.172	96.0	80-120			
Thallium	0.103	0.00232	ng/m³ Air	0.10880	ND	95.1	80-120			
Vanadium	4.17	0.208	ng/m³ Air	2.1760	1.91	104	80-120			
Zinc	ND	302	ng/m³ Air	65.281	ND		80-120			U
Matrix Spike Dup (B4G0909-MSD1) Source: 4070847-06 Prepared: 07/09/24 Analyzed: 07/10/24										

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Matrix Spike Dup (B4G0909-MSD1) Conti			**Source: 4070847-06**		Prepared: 07/09/24		Analyzed: 07/10/24			
Antimony	0.722	0.0304	ng/m³ Air	1.0880	0.129	54.5	80-120	1.62	20	SL
Arsenic	2.61	0.00737	ng/m³ Air	2.1760	0.578	93.6	80-120	0.641	20	
Barium	26.0	0.842	ng/m³ Air	21.760	5.17	95.7	80-120	0.225	20	
Beryllium	1.10	0.00252	ng/m³ Air	1.0880	0.0187	99.0	80-120	1.04	20	
Cadmium	1.06	0.0583	ng/m³ Air	1.0880	ND	97.0	80-120	0.384	20	
Chromium	13.7	1.74	ng/m³ Air	10.880	3.16	97.3	80-120	0.622	20	
Cobalt	1.74	0.0343	ng/m³ Air	1.0880	0.634	101	80-120	0.656	20	
Copper	117	2.07	ng/m³ Air	21.760	97.9	86.3	80-120	1.78	20	
Lead	11.4	0.168	ng/m³ Air	10.880	1.09	95.0	80-120	1.06	20	
Manganese	26.2	1.49	ng/m³ Air	6.5281	19.2	107	80-120	1.46	20	
Molybdenum	2.79	0.282	ng/m³ Air	1.0880	2.06	67.4	80-120	2.54	20	QM-07
Nickel	4.09	0.513	ng/m³ Air	2.1760	2.00	96.1	80-120	1.36	20	
Selenium	2.11	0.00705	ng/m³ Air	2.1760	0.169	89.0	80-120	0.213	20	
Thallium	0.0994	4.63E-4	ng/m³ Air	0.10880	0.00113	90.3	80-120	1.98	20	
Vanadium	4.11	0.0416	ng/m³ Air	2.1760	1.93	99.9	80-120	1.11	20	
Zinc	88.7	60.4	ng/m³ Air	65.281	ND	136	80-120	1.58	20	
Matrix Spike Dup (B4G0909-MSD2)			**Source: 4070847-26**		Prepared: 07/09/24		Analyzed: 07/10/24			
Antimony	0.778	0.0352	ng/m³ Air	1.2609	0.110	53.0	80-120	9.55	20	SL
Arsenic	3.85	0.00854	ng/m³ Air	2.5218	1.40	96.9	80-120	5.87	20	
Barium	27.9	0.976	ng/m³ Air	25.218	3.80	95.7	80-120	5.74	20	
Beryllium	1.23	0.00292	ng/m³ Air	1.2609	0.0133	96.8	80-120	6.57	20	
Cadmium	1.25	0.0676	ng/m³ Air	1.2609	ND	98.8	80-120	6.07	20	
Chromium	15.5	2.01	ng/m³ Air	12.609	2.96	99.5	80-120	5.97	20	
Cobalt	1.75	0.0398	ng/m³ Air	1.2609	0.468	102	80-120	6.85	20	
Copper	67.5	2.40	ng/m³ Air	25.218	39.4	111	80-120	5.71	20	
Lead	12.8	0.195	ng/m³ Air	12.609	0.844	95.1	80-120	7.36	20	
Manganese	23.1	1.72	ng/m³ Air	7.5653	15.0	107	80-120	4.97	20	
Molybdenum	3.44	0.327	ng/m³ Air	1.2609	2.31	90.3	80-120	4.95	20	
Nickel	4.17	0.594	ng/m³ Air	2.5218	1.47	107	80-120	6.10	20	
Selenium	2.49	0.00817	ng/m³ Air	2.5218	0.147	92.9	80-120	6.74	20	
Thallium	0.117	5.37E-4	ng/m³ Air	0.12609	8.51E-4	91.8	80-120	7.62	20	
Vanadium	3.74	0.0482	ng/m³ Air	2.5218	1.23	99.6	80-120	5.10	20	
Zinc	105	70.0	ng/m³ Air	75.653	ND	139	80-120	5.95	20	
Matrix Spike Dup (B4G0909-MSD3)			**Source: 4070847-06R**		Prepared: 07/09/24		Analyzed: 07/11/24			
Antimony	0.718	0.152	ng/m³ Air	1.0880	ND	66.0	80-120	2.88	20	
Arsenic	2.68	0.0369	ng/m³ Air	2.1760	0.589	95.9	80-120	1.34	20	
Barium	26.3	4.21	ng/m³ Air	21.760	5.36	96.2	80-120	2.20	20	
Beryllium	1.04	0.0126	ng/m³ Air	1.0880	0.0189	93.6	80-120	1.05	20	

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Matrix Spike Dup (B4G0909-MSD3) Conti			**Source: 4070847-06R**		Prepared: 07/09/24		Analyzed: 07/11/24			
Cadmium	1.13	0.291	ng/m³ Air	1.0880	ND	104	80-120	0.571	20	
Chromium	13.8	8.69	ng/m³ Air	10.880	ND	127	80-120	1.19	20	
Cobalt	1.78	0.172	ng/m³ Air	1.0880	0.665	102	80-120	1.66	20	
Copper	124	10.3	ng/m³ Air	21.760	104	91.8	80-120	3.29	20	
Lead	11.5	0.842	ng/m³ Air	10.880	1.14	95.3	80-120	1.44	20	
Manganese	26.6	7.43	ng/m³ Air	6.5281	19.9	101	80-120	2.93	20	
Molybdenum	3.26	1.41	ng/m³ Air	1.0880	2.45	74.6	80-120	5.26	20	
Nickel	4.27	2.56	ng/m³ Air	2.1760	ND	196	80-120	1.58	20	
Selenium	2.23	0.0352	ng/m³ Air	2.1760	0.172	94.6	80-120	1.31	20	
Thallium	0.104	0.00232	ng/m³ Air	0.10880	ND	95.5	80-120	0.441	20	
Vanadium	4.00	0.208	ng/m³ Air	2.1760	1.91	96.0	80-120	4.28	20	
Zinc	ND	302	ng/m³ Air	65.281	ND		80-120		20	U
Post Spike (B4G0909-PS1)			**Source: 4070847-06**		Prepared: 07/09/24		Analyzed: 07/10/24			
Antimony	0.340	0.0304	ng/m³ Air	0.21760	0.129	97.3	75-125			SL
Arsenic	1.57	0.00737	ng/m³ Air	1.0880	0.578	91.2	75-125			
Barium	7.16	0.842	ng/m³ Air	2.1760	5.17	91.8	75-125			
Beryllium	0.233	0.00252	ng/m³ Air	0.21760	0.0187	98.7	75-125			
Cadmium	0.119	0.0583	ng/m³ Air	0.10880	ND	109	75-125			
Chromium	4.24	1.74	ng/m³ Air	1.0880	3.16	99.1	75-125			
Cobalt	0.845	0.0343	ng/m³ Air	0.21760	0.634	96.8	75-125			
Copper	109	2.07	ng/m³ Air	10.880	97.9	101	75-125			
Lead	21.7	0.168	ng/m³ Air	21.760	1.09	94.9	75-125			
Manganese	21.4	1.49	ng/m³ Air	2.1760	19.2	101	75-125			
Molybdenum	2.90	0.282	ng/m³ Air	1.0880	2.06	77.5	75-125			
Nickel	4.19	0.513	ng/m³ Air	2.1760	2.00	101	75-125			
Selenium	1.11	0.00705	ng/m³ Air	1.0880	0.169	86.5	75-125			
Thallium	0.0515	4.63E-4	ng/m³ Air	5.4401E-2	0.00113	92.6	75-125			
Vanadium	2.99	0.0416	ng/m³ Air	1.0880	1.93	97.6	75-125			
Zinc	ND	60.4	ng/m³ Air	21.760	ND		75-125			U
Post Spike (B4G0909-PS2)			**Source: 4070847-26**		Prepared: 07/09/24		Analyzed: 07/10/24			
Antimony	0.358	0.0352	ng/m³ Air	0.25218	0.110	98.2	75-125			SL
Arsenic	2.62	0.00854	ng/m³ Air	1.2609	1.40	96.9	75-125			
Barium	6.34	0.976	ng/m³ Air	2.5218	3.80	100	75-125			
Beryllium	0.263	0.00292	ng/m³ Air	0.25218	0.0133	99.0	75-125			
Cadmium	0.146	0.0676	ng/m³ Air	0.12609	ND	116	75-125			
Chromium	4.31	2.01	ng/m³ Air	1.2609	2.96	107	75-125			
Cobalt	0.727	0.0398	ng/m³ Air	0.25218	0.468	103	75-125			
Copper	54.2	2.40	ng/m³ Air	12.609	39.4	117	75-125			

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FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Post Spike (B4G0909-PS2) Continued			**Source: 4070847-26**		Prepared: 07/09/24		Analyzed: 07/10/24			
Lead	25.9	0.195	ng/m³ Air	25.218	0.844	99.5	75-125			
Manganese	17.7	1.72	ng/m³ Air	2.5218	15.0	108	75-125			
Molybdenum	3.40	0.327	ng/m³ Air	1.2609	2.31	87.0	75-125			
Nickel	4.13	0.594	ng/m³ Air	2.5218	1.47	105	75-125			
Selenium	1.35	0.00817	ng/m³ Air	1.2609	0.147	95.0	75-125			
Thallium	0.0624	5.37E-4	ng/m³ Air	6.3044E-2	8.51E-4	97.6	75-125			
Vanadium	2.50	0.0482	ng/m³ Air	1.2609	1.23	101	75-125			
Zinc	ND	70.0	ng/m³ Air	25.218	ND		75-125			U
Post Spike (B4G0909-PS3)			**Source: 4070847-06R**		Prepared: 07/09/24		Analyzed: 07/11/24			
Antimony	0.340	0.152	ng/m³ Air	0.21760	ND	156	75-125			
Arsenic	1.56	0.0369	ng/m³ Air	1.0880	0.589	88.8	75-125			
Barium	7.30	4.21	ng/m³ Air	2.1760	5.36	89.2	75-125			
Beryllium	0.217	0.0126	ng/m³ Air	0.21760	0.0189	90.9	75-125			
Cadmium	ND	0.291	ng/m³ Air	0.10880	ND		75-125			U
Chromium	ND	8.69	ng/m³ Air	1.0880	ND		75-125			U
Cobalt	0.863	0.172	ng/m³ Air	0.21760	0.665	91.0	75-125			
Copper	116	10.3	ng/m³ Air	10.880	104	112	75-125			
Lead	21.6	0.842	ng/m³ Air	21.760	1.14	94.2	75-125			
Manganese	21.7	7.43	ng/m³ Air	2.1760	19.9	79.1	75-125			
Molybdenum	3.39	1.41	ng/m³ Air	1.0880	2.45	85.8	75-125			
Nickel	4.32	2.56	ng/m³ Air	2.1760	ND	198	75-125			
Selenium	1.17	0.0352	ng/m³ Air	1.0880	0.172	91.8	75-125			
Thallium	0.0509	0.00232	ng/m³ Air	5.4401E-2	ND	93.6	75-125			
Vanadium	2.89	0.208	ng/m³ Air	1.0880	1.91	90.1	75-125			
Zinc	ND	302	ng/m³ Air	21.760	ND		75-125			U
Dilution Check (B4G0909-SRL1)			**Source: 4070847-06**		Prepared: 07/09/24		Analyzed: 07/10/24			
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.594	0.0369	ng/m³ Air		0.578			2.88	10	
Barium	5.35	4.21	ng/m³ Air		5.17			3.52	10	
Beryllium	0.0189	0.0126	ng/m³ Air		0.0187			1.21	10	
Cadmium	ND	0.291	ng/m³ Air		ND				10	U
Chromium	ND	8.69	ng/m³ Air		ND				10	U
Cobalt	0.650	0.172	ng/m³ Air		0.634			2.45	10	
Copper	102	10.3	ng/m³ Air		97.9			4.28	10	
Lead	1.11	0.842	ng/m³ Air		1.09			2.33	10	
Manganese	19.6	7.43	ng/m³ Air		19.2			1.84	10	
Molybdenum	2.35	1.41	ng/m³ Air		2.06			13.3	10	
Nickel	ND	2.56	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0909 - ICP-MS Extraction										
Dilution Check (B4G0909-SRL1) Continue				**Source: 4070847-06**			Prepared: 07/09/24	Analyzed: 07/10/24		
Selenium	0.168	0.0352	ng/m³ Air		0.169			0.329	10	
Thallium	0.00251	0.00232	ng/m³ Air		ND			75.5	10	
Vanadium	1.91	0.208	ng/m³ Air		1.93			1.05	10	
Zinc	ND	302	ng/m³ Air		ND				10	U
Dilution Check (B4G0909-SRL2)				**Source: 4070847-26**			Prepared: 07/09/24	Analyzed: 07/10/24		
Antimony	ND	0.176	ng/m³ Air		ND				10	SL, U
Arsenic	1.42	0.0427	ng/m³ Air		1.40			1.64	10	
Barium	ND	4.88	ng/m³ Air		ND				10	U
Beryllium	ND	0.0146	ng/m³ Air		ND				10	U
Cadmium	ND	0.338	ng/m³ Air		ND				10	U
Chromium	ND	10.1	ng/m³ Air		ND				10	U
Cobalt	0.468	0.199	ng/m³ Air		0.468			0.0612	10	
Copper	39.7	12.0	ng/m³ Air		39.4			0.889	10	
Lead	ND	0.976	ng/m³ Air		ND				10	U
Manganese	15.0	8.62	ng/m³ Air		15.0			0.467	10	
Molybdenum	2.54	1.64	ng/m³ Air		2.31			9.75	10	
Nickel	ND	2.97	ng/m³ Air		ND				10	U
Selenium	0.143	0.0408	ng/m³ Air		0.147			2.93	10	
Thallium	ND	0.00269	ng/m³ Air		ND				10	U
Vanadium	1.20	0.241	ng/m³ Air		1.23			2.60	10	
Zinc	ND	350	ng/m³ Air		ND				10	U
Dilution Check (B4G0909-SRL3)				**Source: 4070847-06R**			Prepared: 07/09/24	Analyzed: 07/11/24		
Antimony	ND	0.759	ng/m³ Air		ND				10	U
Arsenic	0.621	0.184	ng/m³ Air		0.589			5.31	10	
Barium	ND	21.0	ng/m³ Air		ND				10	U
Beryllium	ND	0.0629	ng/m³ Air		ND				10	U
Cadmium	ND	1.46	ng/m³ Air		ND				10	U
Chromium	ND	43.5	ng/m³ Air		ND				10	U
Cobalt	ND	0.858	ng/m³ Air		ND				10	U
Copper	105	51.7	ng/m³ Air		104			1.83	10	
Lead	ND	4.21	ng/m³ Air		ND				10	U
Manganese	ND	37.2	ng/m³ Air		ND				10	U
Molybdenum	ND	7.06	ng/m³ Air		ND				10	U
Nickel	ND	12.8	ng/m³ Air		ND				10	U
Selenium	0.195	0.176	ng/m³ Air		ND			12.4	10	
Thallium	ND	0.0116	ng/m³ Air		ND				10	U
Vanadium	1.70	1.04	ng/m³ Air		1.91			11.4	10	
Zinc	ND	1510	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 07/18/24 11:53
SUBMITTED: 07/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/17/2024 and Shanna Vasser 7/18/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/27/2024 – 07/03/2024
Report No: 4070847

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM04-062724-HM was listed on the CoC, but crossed off, voided (due to volume being less than the Department of Health set threshold), and not shipped to the laboratory. No results were present in the laboratory report for this sample because they were not shipped.
13. Field blank detections above the method detection limit were reported for arsenic and copper in MFL-FB01-062824-HM and for arsenic in MFL-FB01-070224-HM.

Notes:

1. A two-fold dilution was performed on MFL-AM01-062824-HM for arsenic, cadmium, molybdenum, and selenium. A five-fold dilution was performed on MFL-AM02-062824-HM for arsenic, cadmium, molybdenum, and selenium. A two-fold dilution was performed on MFL-AM04-070324-HM for lead and thallium.
2. A revised report was issued on 7/18/2024 to correct typos in volumes for MFL-AM01-062724-HM (1940.849 m^3) and MFL-AM02-062924-HM (1894.398 m^3).

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 31, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/22/24 09:47.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
[redacted]				

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MFL-AM04-062724-HM	4072229-32	Air	06/27/24 23:59	07/22/24 09:47

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AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062724-HM
Matrix: Air
Lab ID: 4072229-32
Sample Volume: 1502.184 m³
Filter ID:
Sampled: 06/27/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 11:36

Comments: Q9539698 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0418**
Arsenic	**7440-38-2**	**0.509**		**0.0101**
Barium	**7440-39-3**	**4.72**		**1.16**
Beryllium	**7440-41-7**	**0.0203**		**0.00347**
Cadmium	7440-43-9	0.0134	U	0.0803
Chromium	**7440-47-3**	**3.17**		**2.39**
Cobalt	**7440-48-4**	**0.577**		**0.0472**
Copper	**7440-50-8**	**39.3**		**2.85**
Lead	**7439-92-1**	**1.08**		**0.232**
Manganese	**7439-96-5**	**20.1**		**2.05**
Molybdenum	**7439-98-7**	**1.52**		**0.389**
Nickel	**7440-02-0**	**1.76**		**0.706**
Selenium	**7782-49-2**	**0.161**		**0.00970**
Thallium	**7440-28-0**	**0.00121**		**6.38E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0573**
Zinc	7440-66-6	18.3	U	83.2

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB1)				Prepared & Analyzed: 07/23/24						
Antimony	0.473		ng/l							
Arsenic	0.282		ng/l							
Barium	1.75		ng/l							
Beryllium	-0.0656		ng/l							U
Cadmium	0.181		ng/l							
Chromium	3.73		ng/l							
Cobalt	0.146		ng/l							
Copper	69.6		ng/l							
Lead	1.64		ng/l							
Manganese	5.82		ng/l							
Molybdenum	28.0		ng/l							
Nickel	4.24		ng/l							
Selenium	3.00		ng/l							
Thallium	0.854		ng/l							
Vanadium	44.3		ng/l							
Zinc	-36.1		ng/l							U
Calibration Blank (2407087-CCB2)				Prepared & Analyzed: 07/23/24						
Antimony	0.257		ng/l							
Arsenic	6.56		ng/l							
Barium	1.57		ng/l							
Beryllium	-0.171		ng/l							U
Cadmium	0.0526		ng/l							
Chromium	2.62		ng/l							
Cobalt	0.238		ng/l							
Copper	81.2		ng/l							
Lead	1.48		ng/l							
Manganese	4.16		ng/l							
Molybdenum	6.71		ng/l							
Nickel	3.19		ng/l							
Selenium	4.61		ng/l							
Thallium	0.599		ng/l							
Vanadium	16.2		ng/l							
Zinc	-70.7		ng/l							U
Calibration Blank (2407087-CCB3)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.273		ng/l							
Arsenic	3.21		ng/l							
Barium	1.27		ng/l							
Beryllium	-0.280		ng/l							U

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB3) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Cadmium	0.179		ng/l							
Chromium	4.25		ng/l							
Cobalt	0.197		ng/l							
Copper	88.4		ng/l							
Lead	1.61		ng/l							
Manganese	4.77		ng/l							
Molybdenum	8.73		ng/l							
Nickel	3.70		ng/l							
Selenium	5.65		ng/l							
Thallium	0.859		ng/l							
Vanadium	-3.12		ng/l							U
Zinc	-12.6		ng/l							U
Calibration Blank (2407087-CCB4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.419		ng/l							
Arsenic	9.73		ng/l							
Barium	1.15		ng/l							
Beryllium	-0.276		ng/l							U
Cadmium	0.100		ng/l							
Chromium	6.94		ng/l							
Cobalt	0.219		ng/l							
Copper	60.8		ng/l							
Lead	1.68		ng/l							
Manganese	4.48		ng/l							
Molybdenum	6.26		ng/l							
Nickel	5.60		ng/l							
Selenium	10.0		ng/l							
Thallium	0.738		ng/l							
Vanadium	-11.6		ng/l							U
Zinc	-76.1		ng/l							U
Calibration Blank (2407087-CCB5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.118		ng/l							
Arsenic	8.33		ng/l							
Barium	2.98		ng/l							
Beryllium	-0.773		ng/l							U
Cadmium	0.165		ng/l							
Chromium	6.27		ng/l							
Cobalt	0.293		ng/l							
Copper	55.9		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB5) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Lead	1.98		ng/l							
Manganese	6.59		ng/l							
Molybdenum	9.05		ng/l							
Nickel	4.74		ng/l							
Selenium	12.7		ng/l							
Thallium	0.888		ng/l							
Vanadium	-11.3		ng/l							U
Zinc	-68.0		ng/l							U
Calibration Blank (2407087-CCB6)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.283		ng/l							
Arsenic	9.08		ng/l							
Barium	2.24		ng/l							
Beryllium	-1.00		ng/l							U
Cadmium	0.124		ng/l							
Chromium	7.91		ng/l							
Cobalt	0.330		ng/l							
Copper	45.7		ng/l							
Lead	1.66		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.66		ng/l							
Nickel	3.99		ng/l							
Selenium	-3.37		ng/l							U
Thallium	0.766		ng/l							
Vanadium	-12.6		ng/l							U
Zinc	-72.8		ng/l							U
Calibration Blank (2407087-CCB7)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.149		ng/l							
Arsenic	7.54		ng/l							
Barium	1.82		ng/l							
Beryllium	-0.811		ng/l							U
Cadmium	0.204		ng/l							
Chromium	7.94		ng/l							
Cobalt	0.400		ng/l							
Copper	44.2		ng/l							
Lead	1.81		ng/l							
Manganese	4.39		ng/l							
Molybdenum	6.83		ng/l							
Nickel	3.30		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB7) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Selenium	7.52		ng/l							
Thallium	1.02		ng/l							
Vanadium	-14.8		ng/l							U
Zinc	-72.5		ng/l							U
Calibration Check (2407087-CCV1)				Prepared & Analyzed: 07/23/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19500		ng/l	20000		97.7	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV2)				Prepared & Analyzed: 07/23/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.1	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.9	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19500		ng/l	20000		97.6	90-110			
Thallium	478		ng/l	500.00		95.5	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV3)				Prepared & Analyzed: 07/23/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.2	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19800		ng/l	20000		99.1	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5380		ng/l	5000.0		108	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV5) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV6)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19400		ng/l	20000		96.9	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV7)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5300		ng/l	5000.0		106	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV7) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	483		ng/l	500.00		96.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
High Cal Check (2407087-HCV1)					Prepared & Analyzed: 07/23/24					
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39700		ng/l	40000		99.2	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39900		ng/l	40000		99.7	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	99000		ng/l	100000		99.0	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	99100		ng/l	100000		99.1	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	981		ng/l	1000.0		98.1	95-105			
Vanadium	39800		ng/l	40000		99.6	95-105			
Zinc	988000		ng/l	1.0000E6		98.8	95-105			
Initial Cal Blank (2407087-ICB1)					Prepared & Analyzed: 07/23/24					
Antimony	0.799		ng/l							
Arsenic	-2.82		ng/l							U
Barium	2.00		ng/l							
Beryllium	-0.123		ng/l							U
Cadmium	0.157		ng/l							
Chromium	3.06		ng/l							
Cobalt	0.207		ng/l							
Copper	75.5		ng/l							
Lead	1.52		ng/l							
Manganese	11.1		ng/l							
Molybdenum	11.2		ng/l							
Nickel	-0.842		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Initial Cal Blank (2407087-ICB1) Continu				Prepared & Analyzed: 07/23/24						
Selenium	20.4		ng/l							
Thallium	0.720		ng/l							
Vanadium	62.8		ng/l							
Zinc	-47.0		ng/l							U
Initial Cal Check (2407087-ICV1)				Prepared & Analyzed: 07/23/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	47800		ng/l	50000		95.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	118000		ng/l	120000		98.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	491		ng/l	500.00		98.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2407087-IFA1)				Prepared & Analyzed: 07/23/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Interference Check B (2407087-IFB1)				Prepared & Analyzed: 07/23/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4900		ng/l	5000.0		97.9	80-120			
Cadmium	20000		ng/l	20000		99.9	80-120			
Chromium	231000		ng/l	240000		96.1	80-120			
Cobalt	49600		ng/l	50000		99.2	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.8	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	375000		ng/l	350000		107	80-120			
Nickel	116000		ng/l	120000		96.6	80-120			
Selenium	19100		ng/l	20000		95.4	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.7	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4G2306 - ICP-MS Extraction										
Blank (B4G2306-BLK1)				Prepared & Analyzed: 07/23/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G2306-BS1)				Prepared & Analyzed: 07/23/24						
Antimony	0.764	0.0386	ng/m³ Air	1.3829		55.3	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
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AQS SITE CODE:
SITE CODE: Lahaina fires

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4G2306 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (B4G2306-BS1) Continued				Prepared & Analyzed: 07/23/24						
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.5	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.6	80-120			
Manganese	8.47	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.67	0.00896	ng/m³ Air	2.7658		96.7	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4G2306-BS2)				Prepared & Analyzed: 07/23/24						
Antimony	0.745	0.0386	ng/m³ Air	1.3829		53.9	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.9	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.49	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.23	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.63	0.00896	ng/m³ Air	2.7658		94.9	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.7	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4G2306-DUP1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.0802	0.0330	ng/m³ Air		0.0832			3.64	10	SL
Arsenic	0.840	0.00800	ng/m³ Air		0.825			1.77	10	
Barium	7.30	0.913	ng/m³ Air		7.31			0.177	10	
Beryllium	0.0424	0.00273	ng/m³ Air		0.0407			3.87	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	6.64	1.89	ng/m³ Air		6.48			2.44	10	
Cobalt	1.33	0.0372	ng/m³ Air		1.33			0.0159	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP1) Continued			**Source: 4072229-04**		Prepared & Analyzed: 07/23/24					
Copper	25.0	2.25	ng/m³ Air		23.3			6.86	10	
Lead	2.02	0.183	ng/m³ Air		2.12			4.73	10	
Manganese	40.2	1.61	ng/m³ Air		39.8			0.808	10	
Molybdenum	1.04	0.306	ng/m³ Air		1.07			3.02	10	
Nickel	3.74	0.557	ng/m³ Air		3.59			4.13	10	
Selenium	0.275	0.00765	ng/m³ Air		0.266			3.56	10	
Thallium	0.00229	5.03E-4	ng/m³ Air		0.00231			0.923	10	
Vanadium	2.96	0.0452	ng/m³ Air		2.91			1.77	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP2)			**Source: 4072229-24**		Prepared & Analyzed: 07/23/24					
Antimony	0.159	0.0308	ng/m³ Air		0.163			1.97	10	SL
Arsenic	0.516	0.00748	ng/m³ Air		0.515			0.196	10	
Barium	6.71	0.855	ng/m³ Air		6.82			1.70	10	
Beryllium	0.0225	0.00256	ng/m³ Air		0.0224			0.236	10	
Cadmium	ND	0.0592	ng/m³ Air		ND				10	U
Chromium	3.31	1.77	ng/m³ Air		3.26			1.37	10	
Cobalt	0.682	0.0348	ng/m³ Air		0.672			1.53	10	
Copper	63.3	2.10	ng/m³ Air		63.2			0.239	10	
Lead	1.79	0.171	ng/m³ Air		1.69			5.48	10	
Manganese	21.8	1.51	ng/m³ Air		21.8			0.439	10	
Molybdenum	1.85	0.287	ng/m³ Air		1.82			1.75	10	
Nickel	1.82	0.521	ng/m³ Air		1.80			1.00	10	
Selenium	0.231	0.00716	ng/m³ Air		0.230			0.178	10	
Thallium	0.00193	4.70E-4	ng/m³ Air		0.00195			0.972	10	
Vanadium	2.00	0.0423	ng/m³ Air		2.00			0.270	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP3)			**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	0.0772	0.0345	ng/m³ Air		0.0795			2.88	10	SL
Arsenic	0.424	0.00837	ng/m³ Air		0.426			0.686	10	
Barium	3.50	0.955	ng/m³ Air		3.52			0.569	10	
Beryllium	0.0100	0.00286	ng/m³ Air		0.00915			9.34	10	
Cadmium	ND	0.0662	ng/m³ Air		ND				10	U
Chromium	2.37	1.97	ng/m³ Air		2.39			0.902	10	
Cobalt	0.327	0.0389	ng/m³ Air		0.331			1.20	10	
Copper	229	2.35	ng/m³ Air		231			0.697	10	
Lead	0.401	0.191	ng/m³ Air		0.401			0.0690	10	
Manganese	10.2	1.69	ng/m³ Air		10.4			1.15	10	
Molybdenum	11.3	0.321	ng/m³ Air		11.4			0.764	10	

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP3) Continued		**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24						
Nickel	0.927	0.582	ng/m³ Air		0.930			0.405	10	
Selenium	0.269	0.00800	ng/m³ Air		0.283			5.22	10	
Thallium	0.00185	5.26E-4	ng/m³ Air		0.00181			1.87	10	
Vanadium	1.10	0.0472	ng/m³ Air		1.10			0.272	10	
Zinc	ND	68.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP4)		**Source: 4072229-30**		Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.0530	0.0329	ng/m³ Air		0.0528			0.321	10	SL
Arsenic	0.257	0.00799	ng/m³ Air		0.257			0.239	10	
Barium	4.20	0.913	ng/m³ Air		4.22			0.338	10	
Beryllium	0.0572	0.00273	ng/m³ Air		0.0571			0.138	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	3.94	1.89	ng/m³ Air		3.94			0.0813	10	
Cobalt	0.749	0.0372	ng/m³ Air		0.748			0.123	10	
Copper	43.9	2.24	ng/m³ Air		43.9			0.0541	10	
Lead	0.493	0.183	ng/m³ Air		0.494			0.152	10	
Manganese	17.1	1.61	ng/m³ Air		17.2			0.752	10	
Molybdenum	2.15	0.306	ng/m³ Air		2.13			1.01	10	
Nickel	1.80	0.556	ng/m³ Air		1.81			0.171	10	
Selenium	0.197	0.00764	ng/m³ Air		0.189			4.23	10	
Thallium	0.00149	5.03E-4	ng/m³ Air		0.00151			1.79	10	
Vanadium	1.61	0.0451	ng/m³ Air		1.61			0.0949	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Matrix Spike (B4G2306-MS1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.526	0.0330	ng/m³ Air	1.1805	0.0832	37.5	80-120			SL
Arsenic	2.92	0.00800	ng/m³ Air	2.3610	0.825	88.9	80-120			
Barium	30.2	0.913	ng/m³ Air	23.610	7.31	97.1	80-120			
Beryllium	1.19	0.00273	ng/m³ Air	1.1805	0.0407	97.5	80-120			
Cadmium	1.19	0.0633	ng/m³ Air	1.1805	ND	101	80-120			
Chromium	17.2	1.89	ng/m³ Air	11.805	6.48	90.7	80-120			
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	98.9	80-120			
Copper	45.8	2.25	ng/m³ Air	23.610	23.3	95.2	80-120			
Lead	13.4	0.183	ng/m³ Air	11.805	2.12	96.0	80-120			
Manganese	45.3	1.61	ng/m³ Air	7.0831	39.8	76.8	80-120			QM-4X
Molybdenum	2.06	0.306	ng/m³ Air	1.1805	1.07	84.2	80-120			
Nickel	5.58	0.557	ng/m³ Air	2.3610	3.59	84.6	80-120			
Selenium	2.42	0.00765	ng/m³ Air	2.3610	0.266	91.4	80-120			
Thallium	0.118	5.03E-4	ng/m³ Air	0.11805	0.00231	97.6	80-120			
Vanadium	4.86	0.0452	ng/m³ Air	2.3610	2.91	82.5	80-120			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike (B4G2306-MS1) Continued Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Zinc	91.4	65.6	ng/m³ Air	70.831	ND	129	80-120			
Matrix Spike (B4G2306-MS2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.705	0.0308	ng/m³ Air	1.1046	0.163	49.1	80-120			SL
Arsenic	2.59	0.00748	ng/m³ Air	2.2093	0.515	93.8	80-120			
Barium	28.6	0.855	ng/m³ Air	22.093	6.82	98.6	80-120			
Beryllium	1.13	0.00256	ng/m³ Air	1.1046	0.0224	100	80-120			
Cadmium	1.12	0.0592	ng/m³ Air	1.1046	ND	101	80-120			
Chromium	14.2	1.77	ng/m³ Air	11.046	3.26	98.6	80-120			
Cobalt	1.76	0.0348	ng/m³ Air	1.1046	0.672	98.6	80-120			
Copper	86.4	2.10	ng/m³ Air	22.093	63.2	105	80-120			
Lead	12.8	0.171	ng/m³ Air	11.046	1.69	101	80-120			
Manganese	28.0	1.51	ng/m³ Air	6.6279	21.8	94.1	80-120			
Molybdenum	2.98	0.287	ng/m³ Air	1.1046	1.82	105	80-120			
Nickel	4.09	0.521	ng/m³ Air	2.2093	1.80	104	80-120			
Selenium	2.31	0.00716	ng/m³ Air	2.2093	0.230	94.0	80-120			
Thallium	0.107	4.70E-4	ng/m³ Air	0.11046	0.00195	94.9	80-120			
Vanadium	4.12	0.0423	ng/m³ Air	2.2093	2.00	95.7	80-120			
Zinc	86.9	61.3	ng/m³ Air	66.279	ND	131	80-120			
Matrix Spike Dup (B4G2306-MSD1) Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Antimony	0.530	0.0330	ng/m³ Air	1.1805	0.0832	37.9	80-120	0.791	20	SL
Arsenic	2.99	0.00800	ng/m³ Air	2.3610	0.825	91.7	80-120	2.22	20	
Barium	30.9	0.913	ng/m³ Air	23.610	7.31	99.7	80-120	2.00	20	
Beryllium	1.17	0.00273	ng/m³ Air	1.1805	0.0407	95.4	80-120	2.14	20	
Cadmium	1.20	0.0633	ng/m³ Air	1.1805	ND	101	80-120	0.519	20	
Chromium	18.2	1.89	ng/m³ Air	11.805	6.48	99.3	80-120	5.77	20	
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	99.0	80-120	0.0497	20	
Copper	46.7	2.25	ng/m³ Air	23.610	23.3	99.0	80-120	1.94	20	
Lead	13.7	0.183	ng/m³ Air	11.805	2.12	98.1	80-120	1.86	20	
Manganese	47.1	1.61	ng/m³ Air	7.0831	39.8	103	80-120	3.96	20	
Molybdenum	2.10	0.306	ng/m³ Air	1.1805	1.07	87.3	80-120	1.78	20	
Nickel	6.04	0.557	ng/m³ Air	2.3610	3.59	104	80-120	7.85	20	
Selenium	2.45	0.00765	ng/m³ Air	2.3610	0.266	92.7	80-120	1.23	20	
Thallium	0.117	5.03E-4	ng/m³ Air	0.11805	0.00231	97.4	80-120	0.232	20	
Vanadium	5.13	0.0452	ng/m³ Air	2.3610	2.91	94.1	80-120	5.48	20	
Zinc	93.2	65.6	ng/m³ Air	70.831	ND	132	80-120	1.87	20	
Matrix Spike Dup (B4G2306-MSD2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.718	0.0308	ng/m³ Air	1.1046	0.163	50.3	80-120	1.87	20	SL
Arsenic	2.65	0.00748	ng/m³ Air	2.2093	0.515	96.7	80-120	2.49	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike Dup (B4G2306-MSD2) Conti				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Barium	31.5	0.855	ng/m³ Air	22.093	6.82	112	80-120	9.56	20	
Beryllium	1.12	0.00256	ng/m³ Air	1.1046	0.0224	99.3	80-120	0.906	20	
Cadmium	1.14	0.0592	ng/m³ Air	1.1046	ND	103	80-120	2.07	20	
Chromium	14.9	1.77	ng/m³ Air	11.046	3.26	106	80-120	5.40	20	
Cobalt	1.79	0.0348	ng/m³ Air	1.1046	0.672	101	80-120	1.75	20	
Copper	91.2	2.10	ng/m³ Air	22.093	63.2	127	80-120	5.36	20	QM-07
Lead	12.9	0.171	ng/m³ Air	11.046	1.69	101	80-120	0.510	20	
Manganese	28.4	1.51	ng/m³ Air	6.6279	21.8	101	80-120	1.52	20	
Molybdenum	3.31	0.287	ng/m³ Air	1.1046	1.82	135	80-120	10.4	20	QM-07
Nickel	4.12	0.521	ng/m³ Air	2.2093	1.80	105	80-120	0.820	20	
Selenium	2.34	0.00716	ng/m³ Air	2.2093	0.230	95.4	80-120	1.38	20	
Thallium	0.109	4.70E-4	ng/m³ Air	0.11046	0.00195	96.5	80-120	1.57	20	
Vanadium	4.18	0.0423	ng/m³ Air	2.2093	2.00	98.6	80-120	1.54	20	
Zinc	88.3	61.3	ng/m³ Air	66.279	ND	133	80-120	1.54	20	
Post Spike (B4G2306-PS1)				**Source: 4072229-04**		Prepared & Analyzed: 07/23/24				
Antimony	0.317	0.0330	ng/m³ Air	0.23610	0.0832	99.0	75-125			SL
Arsenic	1.93	0.00800	ng/m³ Air	1.1805	0.825	93.4	75-125			
Barium	9.52	0.913	ng/m³ Air	2.3610	7.31	93.6	75-125			
Beryllium	0.273	0.00273	ng/m³ Air	0.23610	0.0407	98.3	75-125			
Cadmium	0.158	0.0633	ng/m³ Air	0.11805	ND	134	75-125			
Chromium	7.62	1.89	ng/m³ Air	1.1805	6.48	96.3	75-125			
Cobalt	1.56	0.0372	ng/m³ Air	0.23610	1.33	96.6	75-125			
Copper	35.2	2.25	ng/m³ Air	11.805	23.3	101	75-125			
Lead	25.5	0.183	ng/m³ Air	23.610	2.12	99.2	75-125			
Manganese	42.5	1.61	ng/m³ Air	2.3610	39.8	113	75-125			
Molybdenum	2.13	0.306	ng/m³ Air	1.1805	1.07	89.6	75-125			
Nickel	5.92	0.557	ng/m³ Air	2.3610	3.59	98.9	75-125			
Selenium	1.35	0.00765	ng/m³ Air	1.1805	0.266	91.5	75-125			
Thallium	0.0598	5.03E-4	ng/m³ Air	5.9026E-2	0.00231	97.4	75-125			
Vanadium	4.05	0.0452	ng/m³ Air	1.1805	2.91	96.9	75-125			
Zinc	ND	65.6	ng/m³ Air	23.610	ND		75-125			PS-01, U
Post Spike (B4G2306-PS2)				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Antimony	0.387	0.0308	ng/m³ Air	0.22093	0.163	101	75-125			SL
Arsenic	1.57	0.00748	ng/m³ Air	1.1046	0.515	95.3	75-125			
Barium	8.97	0.855	ng/m³ Air	2.2093	6.82	97.3	75-125			
Beryllium	0.252	0.00256	ng/m³ Air	0.22093	0.0224	104	75-125			
Cadmium	0.128	0.0592	ng/m³ Air	0.11046	ND	116	75-125			
Chromium	4.29	1.77	ng/m³ Air	1.1046	3.26	92.8	75-125			

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Post Spike (B4G2306-PS2) Continued		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Cobalt	0.888	0.0348	ng/m³ Air	0.22093	0.672	97.6	75-125			
Copper	74.3	2.10	ng/m³ Air	11.046	63.2	100	75-125			
Lead	24.1	0.171	ng/m³ Air	22.093	1.69	101	75-125			
Manganese	24.0	1.51	ng/m³ Air	2.2093	21.8	100	75-125			
Molybdenum	2.89	0.287	ng/m³ Air	1.1046	1.82	96.7	75-125			
Nickel	3.97	0.521	ng/m³ Air	2.2093	1.80	98.1	75-125			
Selenium	1.25	0.00716	ng/m³ Air	1.1046	0.230	92.6	75-125			
Thallium	0.0564	4.70E-4	ng/m³ Air	5.5232E-2	0.00195	98.5	75-125			
Vanadium	3.03	0.0423	ng/m³ Air	1.1046	2.00	93.0	75-125			
Zinc	ND	61.3	ng/m³ Air	22.093	ND		75-125			U
Dilution Check (B4G2306-SRL1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.886	0.0400	ng/m³ Air		0.825			7.12	10	
Barium	7.48	4.57	ng/m³ Air		7.31			2.25	10	
Beryllium	0.0441	0.0137	ng/m³ Air		0.0407			7.90	10	
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.43	ng/m³ Air		ND				10	U
Cobalt	1.40	0.186	ng/m³ Air		1.33			5.13	10	
Copper	24.7	11.2	ng/m³ Air		23.3			5.86	10	
Lead	2.15	0.913	ng/m³ Air		2.12			1.48	10	
Manganese	41.9	8.07	ng/m³ Air		39.8			5.05	10	
Molybdenum	ND	1.53	ng/m³ Air		ND				10	U
Nickel	3.80	2.78	ng/m³ Air		3.59			5.76	10	
Selenium	0.288	0.0382	ng/m³ Air		0.266			8.10	10	
Thallium	0.00366	0.00251	ng/m³ Air		ND			45.1	10	
Vanadium	3.07	0.226	ng/m³ Air		2.91			5.40	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4G2306-SRL2)		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Antimony	0.160	0.154	ng/m³ Air		0.163			1.57	10	SL
Arsenic	0.530	0.0374	ng/m³ Air		0.515			2.85	10	
Barium	6.77	4.27	ng/m³ Air		6.82			0.716	10	
Beryllium	0.0238	0.0128	ng/m³ Air		0.0224			5.86	10	
Cadmium	ND	0.296	ng/m³ Air		ND				10	U
Chromium	ND	8.83	ng/m³ Air		ND				10	U
Cobalt	0.686	0.174	ng/m³ Air		0.672			2.09	10	
Copper	66.1	10.5	ng/m³ Air		63.2			4.48	10	
Lead	1.68	0.855	ng/m³ Air		1.69			0.570	10	
Manganese	22.3	7.55	ng/m³ Air		21.8			2.28	10	

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REPORTED: 07/31/24 13:55
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Dilution Check (B4G2306-SRL2) ContinueSource: 4072229-24 Prepared & Analyzed: 07/23/24										
Molybdenum	1.85	1.43	ng/m³ Air		1.82			1.32	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.270	0.0358	ng/m³ Air		0.230			15.7	10	SRD-01
Thallium	0.00393	0.00235	ng/m³ Air		ND			67.4	10	
Vanadium	2.07	0.211	ng/m³ Air		2.00			3.00	10	
Zinc	ND	307	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/01/2024 and Shanna Vasser 08/01/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/27/2024 and 07/11/2024 – 07/17/2027
Report No: 4072229

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, cobalt, copper, molybdenum, and vanadium in in MFL-FB01-071224-HM, for arsenic in MFL-FB01-071424-HM, and for arsenic in MFL-FB01-071624-HM.

Notes:

4. MFL-AM04-062724-HM was previously marked as void and not shipped due to low volume. It was later determined that there was sufficient volume for the lab to analyze and included with this shipment for analysis.
7. MFL-AM02-071124-HM was analyzed at a two-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

July 4 through July 10, 2024

A Community Air Monitoring and Sampling Plan (CAMSP) was prepared to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling was performed from July 4 through July 10, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from July 4 through July 10 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 µm per cubic meter (µm/m^3) screening level.

Air quality monitoring for fine particulate matter, with a particle size diameter of 2.5 µm or less ($PM_{2.5}$) is not included in the weekly reports. This monitoring is being performed by the Department of Health or EPA at six locations in Lahaina and can be accessed at: https://fire.airnow.gov/.

Air sampling was conducted daily at all four community locations in accordance with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to the Site Screening Action Levels (SSAL) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µm/m^3 screening level, as shown in **Table 1**.

Air Sampling Results

There were 28 samples collected for asbestos fibers at each of the monitoring locations throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory analytical sensitivity; results are presented in **Table 2**. Notably, the laboratory

commented “Numerous gypsum fibers present” on samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on July 7
- WW Pump Station #4 on July 6 and July 7
- Lahaina Intermediate School on July 5 and July 7
- Lahaina Boys & Girls Club on July 7

Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers found in the samples were not sufficient to obscure asbestos analysis; nor are they indicative of a health and safety concern. Occupational health exposure thresholds (National Institute for Occupational Safety and Health [NIOSH] and OSHA) for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 respectively for total dust as time-weighted averages. While total dust sampling has not been conducted, the size-discriminated particulate sampling (PM_{10}) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected in ambient air samples at all community sampling locations. Although metals were detected, all concentrations were below the SSALs.

The laboratory data sheets for the asbestos and metal sample results are included in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally southeast direction. A summary of meteorological data is presented in **Table 3.**

Quality Control Summary

This section presents quality control measures conducted throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOP) are included in the CAMSP.

Air monitoring is conducted with Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer’s procedures.

Asbestos samples are collected with Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, “Calibration of Air Sampling Pump” and 073-3, “Air Quality Monitoring” and U.S. EPA ERT SOPs No. 2008, “General Air Monitoring and Sampling Guidelines” and 2015 “Asbestos Air Sampling," included in the CAMSP.

Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a

- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
July 4 through July 10, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
7/4/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	6.0
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Boys & Girls Club (AM-04)	13
7/5/2024	Leialii Hawaiian Homelands (AM-01)	22
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	9.8
	Lahaina Boys & Girls Club (AM-04)	14
7/6/2024	Leialii Hawaiian Homelands (AM-01)	8.2
	WW Pump Station #4 (AM-02)	5.6
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	13
7/7/2024	Leialii Hawaiian Homelands (AM-01)	9.9
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	8.8
	Lahaina Boys & Girls Club (AM-04)	9.8
7/8/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	9.0
	Lahaina Boys & Girls Club (AM-04)	13
7/9/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	26
	Lahaina Boys & Girls Club (AM-04)	13
7/10/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	21
	Lahaina Intermediate School (AM-03)	9.1
	Lahaina Boys & Girls Club (AM-04)	22

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
July 4 through July 10, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
7/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000618	0.000989	0.0128	0.0000584	ND	0.0118	0.00289	0.112	0.000922	0.0632	0.00479	0.00735	0.000258	0.00000298	0.00825	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000126	0.000459	0.00391	0.0000107	ND	0.00207	0.000348	0.0352	0.00105	0.0105	0.00158	0.00128	0.000143	0.000000952	0.00130	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000751	0.000258	0.00370	0.0000334	ND	0.00278	0.000583	0.0647	0.000552	0.0156	0.00386	0.00158	0.000170	0.00000124	0.00171	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000934	0.000417	0.00365	0.0000125	ND	0.00251	0.000398	0.0304	0.000904	0.0134	0.00196	0.00148	0.000138	0.00000103	0.00131	ND
7/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000155	0.00226	0.0949	0.0000706	ND	0.0149	0.00293	0.236	ND	0.0741	0.00515	0.00575	0.000384	ND	0.00855	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000144	0.000536	0.0532	0.0000202	ND	0.00514	0.000699	0.0690	0.000280	0.0201	0.00212	0.00226	0.000209	ND	0.00246	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000509	0.000203	0.00602	0.0000243	ND	0.00309	0.000513	0.0506	0.000394	0.0131	0.00252	0.00167	0.000150	0.000000824	0.00137	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000977	0.000507	0.00658	0.0000177	ND	0.00332	0.000538	0.0399	0.000905	0.0177	0.00197	0.00153	0.000186	0.00000101	0.00153	ND
7/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000126	0.00286	0.00889	0.0000329	ND	0.00831	0.00142	0.121	0.000780	0.0368	0.00529	0.00328	0.000230	0.00000209	0.00391	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000130	0.000344	0.00470	0.0000142	ND	0.00257	0.000407	0.0439	0.000772	0.0126	0.00231	0.00127	0.000203	0.00000132	0.00136	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000436	0.000392	0.00535	0.0000764	ND	0.00516	0.00115	0.0492	0.000714	0.0300	0.00192	0.00265	0.000236	0.00000201	0.00294	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000828	0.000423	0.00390	0.0000144	ND	0.00312	0.000429	0.0411	0.000834	0.0145	0.00198	0.00132	0.000194	0.00000133	0.00130	ND
7/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000664	0.000831	0.00471	0.0000143	ND	0.00316	0.000533	0.135	0.000446	0.0146	0.00618	0.00149	0.000156	0.00000127	0.00164	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000137	0.000516	0.00590	0.0000195	0.0000624	0.00255	0.000464	0.0450	0.00145	0.0152	0.00181	0.00145	0.000196	0.00000156	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000386	0.000161	0.00247	0.0000218	ND	0.00315	0.000361	0.0458	0.000350	0.00908	0.00245	0.00153	0.000156	0.00000114	0.00102	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000624	0.000444	0.00326	0.0000151	0.000382	0.00321	0.000395	0.0355	0.000784	0.0132	0.00210	0.00130	0.000154	0.00000126	0.00110	ND
7/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000608	0.00148	0.00660	0.0000196	ND	0.00470	0.000842	0.160	0.000520	0.0237	0.00887	0.00209	0.000149	0.00000161	0.00232	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000779	0.000624	0.00397	0.0000159	ND	0.00305	0.000467	0.0463	0.00148	0.0138	0.00198	0.00148	0.000151	0.000000885	0.00146	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000207	0.00260	0.0000229	ND	0.00289	0.000423	0.0410	0.000621	0.0108	0.00213	0.00132	0.000119	0.000000795	0.00102	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000598	0.000497	0.00351	0.0000128	ND	0.00323	0.000462	0.0299	0.000822	0.0133	0.00150	0.00136	0.000133	0.000000835	0.00116	ND
7/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000260	0.00837	0.00993	0.0000211	0.000116	0.00750	0.000899	0.162	0.000571	0.0238	0.00875	0.00253	0.000166	0.00000127	0.00251	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000866	0.000776	0.00808	0.0000347	ND	0.00600	0.00123	0.0589	0.00232	0.0342	0.00202	0.00369	0.000215	0.00000169	0.00372	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000526	0.000346	0.00402	0.0000345	ND	0.00409	0.000742	0.0678	0.000934	0.0186	0.00275	0.00218	0.000188	0.00000126	0.00190	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.000759	0.00593	0.0000215	0.0000862	0.00425	0.000768	0.0329	0.00142	0.0242	0.00132	0.00230	0.000181	0.00000124	0.00204	ND
7/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000163	0.00516	0.0143	0.0000684	0.0000985	0.0136	0.00329	0.109	0.000811	0.0764	0.00568	0.00698	0.000341	0.00000321	0.00862	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000779	0.00109	0.0138	0.0000790	ND	0.0146	0.00367	0.0586	0.00217	0.0853	0.00227	0.00984	0.000363	0.00000362	0.00978	ND
	Lahaina Intermediate School (AM-03)	<0.0027	ND	0.000232	0.00402	0.0000426	ND	0.00427	0.000747	0.0494	0.000570	0.0187	0.00218	0.00195	0.000186	0.00000143	0.00201	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000105	0.00121	0.0106	0.0000606	ND	0.00759	0.00173	0.0365	0.00244	0.0618	0.00124	0.00480	0.000334	0.00000250	0.00416	ND
95% Upper Confidence Limit[2]		NA	0.000120	0.00160	0.0134	0.0000400	0.000533	0.00669	0.00136	0.0876	0.00118	0.0353	0.00385	0.00341	0.000230	0.00000180	0.00374	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 4 through July 10, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
7/4/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	82	56	759.5
7/4/2024	AM-02	WW Pump Station #4	1.2	SSE	81	63	761.4
7/4/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	62	752.2
7/4/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	64	761.1
7/5/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	55	759.1
7/5/2024	AM-02	WW Pump Station #4	1.0	SSE	80	62	761.0
7/5/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	60	751.8
7/5/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	62	760.7
7/6/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	80	57	759.4
7/6/2024	AM-02	WW Pump Station #4	1.2	SE	79	62	761.4
7/6/2024	AM-03	Lahaina Intermediate School	1.1	ESE	78	61	752.2
7/6/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	62	761.1
7/7/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	53	760.6
7/7/2024	AM-02	WW Pump Station #4	1.2	SE	80	60	762.6
7/7/2024	AM-03	Lahaina Intermediate School	1.4	ESE	79	57	753.3
7/7/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	60	762.3
7/8/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	80	61	760.7
7/8/2024	AM-02	WW Pump Station #4	0.9	SSE	81	63	762.6
7/8/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	62	753.4
7/8/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	80	62	762.3
7/9/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	82	57	760.0
7/9/2024	AM-02	WW Pump Station #4	1.2	S	81	65	761.9
7/9/2024	AM-03	Lahaina Intermediate School	1.2	SE	80	61	752.7
7/9/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	80	64	761.6
7/10/2024	AM-01	Leialii Hawaiian Homelands	2.5	ESE	81	58	759.8
7/10/2024	AM-02	WW Pump Station #4	2.1	E	82	59	761.6
7/10/2024	AM-03	Lahaina Intermediate School	2.3	E	81	57	752.3
7/10/2024	AM-04	Lahaina Boys & Girls Club	2.1	S	81	57	761.1

Notes:

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 4 through July 10, 2024

°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in depth discussion can be found in the attached weekly report.

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070424-AB** **Sample Description: DK864463**

EMSL Sample Number:	042414170-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0001 **Customer Sample:** MFL-AM01-070424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I6	None Detected									
B1	E4	None Detected									
B1	C9	None Detected									
B2	B5	None Detected									
B2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070424-AB**		**Sample Description:**	**DK864456**
EMSL Sample Number:	042414170-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7154.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042414170**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0002 **Customer Sample:** MFL-AM02-070424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	J7	None Detected									
B6	F4	None Detected									
B6	C7	None Detected									
B7	B3	None Detected									
B7	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070424-AB**		**Sample Description:**	**DK864464**
EMSL Sample Number:	042414170-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7123.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0003 **Customer Sample:** MFL-AM03-070424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J6	None Detected									
C1	G8	None Detected									
C1	D5	None Detected									
C2	H3	None Detected									
C2	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-070424-AB** **Sample Description: DK864470**

EMSL Sample Number:	042414170-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0004 **Customer Sample:** MFL-AM04-070424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	F3	None Detected									
C5	D6	None Detected									
C6	A2	None Detected									
C6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070424-AB** **Sample Description:** **DK864472**

EMSL Sample Number:	042414170-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0005 **Customer Sample:** MFL-FB01-070424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A4	None Detected									
D2	D7	None Detected									
D2	H4	None Detected									
D2	J7	None Detected									
D3	A5	None Detected									
D3	C8	None Detected									
D3	H5	None Detected									
D4	C3	None Detected									
D4	E8	None Detected									
D4	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-070524-AB**		**Sample Description:**	**DK864466**
EMSL Sample Number:	042414170-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0006 **Customer Sample:** MFL-AM01-070524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B7	None Detected									
D5	F4	None Detected									
D5	J3	None Detected									
D6	I2	None Detected									
D6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-070524-AB** **Sample Description: DK864477**

EMSL Sample Number:	042414170-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0007 **Customer Sample:** MFL-AM02-070524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	A6	None Detected									
E1	E9	None Detected									
E1	I2	None Detected									
E2	G7	None Detected									
E2	A10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-070524-AB** **Sample Description:** **DK864457**

EMSL Sample Number:	042414170-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0008 **Customer Sample:** MFL-AM03-070524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C2	None Detected									
E5	D8	None Detected									
E5	H7	None Detected									
E6	E7	None Detected									
E6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-070524-AB** **Sample Description: DK864475**

EMSL Sample Number:	042414170-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7248.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0009 **Customer Sample:** MFL-AM04-070524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J6	None Detected									
F2	E2	None Detected									
F2	B5	None Detected									
F3	D3	None Detected									
F3	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070524-AB** **Sample Description:** **DK864460**

EMSL Sample Number:	042414170-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0010 **Customer Sample:** MFL-FB01-070524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J8	None Detected									
F5	G4	None Detected									
F5	D6	None Detected									
F5	B9	None Detected									
F6	I2	None Detected									
F6	F7	None Detected									
F6	A5	None Detected									
F7	C3	None Detected									
F7	C7	None Detected									
F7	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	07/17/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070624-AB** **Sample Description: DK864452**

EMSL Sample Number:	042414170-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7277.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0011 **Customer Sample:** MFL-AM01-070624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I4	None Detected									
G1	E2	None Detected									
G1	B3	None Detected									
G2	H5	None Detected									
G2	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070624-AB**		**Sample Description:**	**DK864468**
EMSL Sample Number:	042414170-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0012 **Customer Sample:** MFL-AM02-070624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A8	None Detected									
G5	E5	None Detected									
G5	H7	None Detected									
G6	B6	None Detected									
G6	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070624-AB**		**Sample Description:**	**DK864474**
EMSL Sample Number:	042414170-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7337.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0013 **Customer Sample:** MFL-AM03-070624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B2	None Detected									
H1	D6	None Detected									
H1	I9	None Detected									
H2	C8	None Detected									
H2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-070624-AB** **Sample Description:** **DK864461**

EMSL Sample Number:	042414170-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7088.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	N/A			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0014 **Customer Sample:** MFL-AM04-070624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J9	None Detected									
H5	H5	None Detected									
H5	B7	None Detected									
H6	I6	None Detected									
H6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-070624-AB**		**Sample Description:**	**DK864459**
EMSL Sample Number:	042414170-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0015 **Customer Sample:** MFL-FB01-070624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J2	None Detected									
I1	H5	None Detected									
I1	E7	None Detected									
I1	C4	None Detected									
I2	I7	None Detected									
I2	F3	None Detected									
I2	C7	None Detected									
I3	H2	None Detected									
I3	H5	None Detected									
I3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-070724-AB**	**Sample Description:**	**DK864453**
EMSL Sample Number:	042414170-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7101.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0016 **Customer Sample:** MFL-AM01-070724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B3	None Detected									
I5	E8	None Detected									
I5	J4	None Detected									
I6	C5	None Detected									
6	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070724-AB**		**Sample Description:**	**DK864476**
EMSL Sample Number:	042414170-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7123.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0017 **Customer Sample:** MFL-AM02-070724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A7	None Detected									
J2	D3	None Detected									
J2	I4	None Detected									
J3	G3	None Detected									
J3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070724-AB**		**Sample Description:**	**DK864451**
EMSL Sample Number:	042414170-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7133.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0018 **Customer Sample:** MFL-AM03-070724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I9	None Detected									
J5	H3	None Detected									
J5	C5	None Detected									
J6	B7	None Detected									
J6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-070724-AB**		**Sample Description:**	**DK864522**
EMSL Sample Number:	042414170-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7109.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0019 **Customer Sample:** MFL-AM04-070724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J5	None Detected									
K1	E7	None Detected									
K2	B3	None Detected									
K2	D7	None Detected									
K2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 10:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070724-AB** **Sample Description: DK864503**

EMSL Sample Number:	042414170-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0020 **Customer Sample:** MFL-FB01-070724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	I8	None Detected									
K5	G3	None Detected									
K5	D5	None Detected									
K5	A7	None Detected									
K6	H10	None Detected									
K6	H6	None Detected									
K6	C5	None Detected									
K7	C10	None Detected									
K7	D6	None Detected									
K7	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414170
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/10/2024 09:00 AM
Analysis Date:	07/18/2024
Report Date:	07/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042414170-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042414170
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414170-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A10	None Detected									
A1	B7	None Detected									
A1	E5	None Detected									
A1	H2	None Detected									
A2	B4	None Detected									
A2	F7	None Detected									
A2	J3	None Detected									
A3	I8	None Detected									
3	E3	None Detected									
A3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042414170

#042414170

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

~~#042414175~~ (8) 7/10/24

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	MI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. Kenyon Sniderman	Sampled By Signature:	
No. of Samples in Shipment	20		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-070424-AB	DK864463	7,177.536	07/04/24 1055
MFL-AM02-070424-AB	DK864456	7,154.916	07/04/24 1110
MFL-AM03-070424-AB	DK864464	7,123.392	07/04/24 1256
MFL-AM04-070424-AB	DK864470	7,183.584	07/04/24 1312
MFL-FB01-070424-AB	DK864472	0	07/04/24 1200
MFL-AM01-070524-AB	DK864466	7,203.263	07/05/24 1056
MFL-AM02-070524-AB	DK864477	7,203.263	07/05/24 1109
MFLAM03-070524-AB	DK864457	7,200.180	07/05/24 1257

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 07/08/24 1100	Received by: FedEx
Date/Time	7/10/24 10A		
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

RECEIVED EMSL CINNAMINSON, NJ 24 JUL 10 AM 10:15

Page 1 of 2

20

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042414170

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-070524-AB	DK864475	7,248.641	07/05/24 1314
MFL-FB01-070524-AB	DK864460	0	07/05/24 1200
MFL-AM01-070624-AB	DK864452	7,277.904	07/06/24 1058
MFL-AM02-070624-AB	DK864468	7,186.896	07/06/24 1113
MFL-AM03-070624-AB	DK864474	7,337.461	07/06/24 1300
MFL-AM04-070624-AB	DK864461	7,088.688	07/06/24 1317
MFL-FB01-070624-AB	DK864459	0	07/06/24 1200
MFL-AM01-070724-AB	DK864453	7,101.767	07/07/24 1054
MFL-AM02-070724-AB	DK864476	7,123.545	07/07/24 1107
MFL-AM03-070724-AB	DK864451	7,133.821	07/07/24 1254
MFL-AM04-070724-AB	DK864522	7,109.314	07/07/24 1311
MFL-FB01-070724-AB	DK864503	0	07/07/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL 10 AM 10: 15

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/08/24 1100	Received by: FedEx	Date/Time 7/10/24 10A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/18/2024 and Shanna Vasser 7/19/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/04/2024 – 07/07/2024
Report No: 42414170

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070824-AB** **Sample Description:** **DK864450**

EMSL Sample Number:	042414558-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0001 **Customer Sample:** MFL-AM01-070824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	I5	None Detected									
A5	G3	None Detected									
A5	D2	None Detected									
A6	D9	None Detected									
A6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070824-AB**		**Sample Description:**	**DK864478**
EMSL Sample Number:	042414558-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0002 **Customer Sample:** MFL-AM02-070824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J8	None Detected									
B2	G6	None Detected									
B2	B3	None Detected									
B3	D8	None Detected									
B3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070824-AB**		**Sample Description:**	**DK864454**
EMSL Sample Number:	042414558-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7325.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0003 **Customer Sample:** MFL-AM03-070824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I5	None Detected									
B5	G7	None Detected									
B5	D5	None Detected									
B6	D7	None Detected									
B6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-070824-AB**		**Sample Description:**	**DK864967**
EMSL Sample Number:	042414558-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0004 **Customer Sample:** MFL-AM04-070824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	C6	None Detected									
C2	F9	None Detected									
C2	H5	None Detected									
C3	B2	None Detected									
C3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070824-AB** **Sample Description:** **DK864858**

EMSL Sample Number:	042414558-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0005 **Customer Sample:** MFL-FB01-070824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I10	None Detected									
C5	G6	None Detected									
C5	E3	None Detected									
C5	C7	None Detected									
C5	A5	None Detected									
C6	J5	None Detected									
C6	H3	None Detected									
C6	E3	None Detected									
C6	C3	None Detected									
C6	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-070924-AB** **Sample Description:** **DK864859**

EMSL Sample Number:	042414558-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7255.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0006 **Customer Sample:** MFL-AM01-070924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B5	None Detected									
D1	E3	None Detected									
D1	H6	None Detected									
D2	H1	None Detected									
D2	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-070924-AB**	**Sample Description:**	**DK864843**
EMSL Sample Number:	042414558-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7229.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0007 **Customer Sample:** MFL-AM02-070924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	C4	None Detected									
D5	E7	None Detected									
D5	H4	None Detected									
D6	B4	None Detected									
D6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-070924-AB**		**Sample Description:**	**DK864866**
EMSL Sample Number:	042414558-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7374.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0008 **Customer Sample:** MFL-AM03-070924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	G2	None Detected									
E1	E7	None Detected									
E1	C5	None Detected									
E2	C5	None Detected									
E2	E10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-070924-AB**		**Sample Description:**	**DK864862**
EMSL Sample Number:	042414558-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0009 **Customer Sample:** MFL-AM04-070924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A10	None Detected									
E5	D6	None Detected									
E5	G7	None Detected									
E6	G5	None Detected									
E6	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-070924-AB** **Sample Description: DK864976**

EMSL Sample Number:	042414558-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0010 **Customer Sample:** MFL-FB01-070924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A2	None Detected									
F2	C4	None Detected									
F2	E5	None Detected									
F2	G6	None Detected									
F2	I7	None Detected									
F3	A4	None Detected									
F3	C5	None Detected									
F3	E8	None Detected									
F3	G4	None Detected									
F3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071024-AB**		**Sample Description:**	**DK864892**
EMSL Sample Number:	042414558-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7271.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0011 **Customer Sample:** MFL-AM01-071024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I8	None Detected									
F5	G6	None Detected									
F5	C3	None Detected									
F8	B9	None Detected									
F8	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071024-AB**		**Sample Description:**	**DK864961**
EMSL Sample Number:	042414558-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0012 **Customer Sample:** MFL-AM02-071024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B9	None Detected									
G2	E8	None Detected									
G2	H10	None Detected									
G3	B9	None Detected									
G3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

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Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071024-AB**		**Sample Description:**	**DK864844**
EMSL Sample Number:	042414558-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6997.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0013 **Customer Sample:** MFL-AM03-071024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B4	None Detected									
G5	D8	None Detected									
G5	H10	None Detected									
G6	G3	None Detected									
G6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071024-AB**		**Sample Description:**	**DK864848**
EMSL Sample Number:	042414558-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	20			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0014 **Customer Sample:** MFL-AM04-071024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J4	None Detected									
H2	G5	None Detected									
H2	C1	None Detected									
H3	C5	None Detected									
H3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071024-AB** **Sample Description:** **DK864850**

EMSL Sample Number:	042414558-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0015 **Customer Sample:** MFL-FB01-071024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J1	None Detected									
H5	H5	None Detected									
H5	F2	None Detected									
H5	D3	None Detected									
H5	B2	None Detected									
H6	A7	None Detected									
H6	C8	None Detected									
H6	E9	None Detected									
H6	G7	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414558
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/15/2024 09:00 AM
Analysis Date:	07/22/2024
Report Date:	07/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042414558-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414558
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414558-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A8	None Detected									
A1	D4	None Detected									
A1	H3	None Detected									
A1	I6	None Detected									
A2	B5	None Detected									
A2	E7	None Detected									
A2	J3	None Detected									
A3	I8	None Detected									
A3	I4	None Detected									
A3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042414558

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnaLab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 JUL 15 A 9:52

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Kenyon Saldaña
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-070824-AB	DK864450	7,207.776	07/08/24 1057
MFL-AM02-070824-AB	DK864478	7,279.757	07/08/24 1111
MFL-AM03-070824-AB	DK864454	7,325.712	07/08/24 1257
MFL-AM04-070824-AB	DK864967	7,147.566	07/08/24 1311
MFL-FB01-070824-AB	DK864858	0	07/08/24 1200
MFL-AM01-070924-AB	DK864859	7,255.728	07/09/24 1101
MFL-AM02-070924-AB	DK864843	7,229.353	07/09/24 1115
MFL-AM03-070924-AB	DK864866	7,374.352	07/09/24 1257

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by	Date/Time	Received by	Date/Time
	07/11/24 1400	FX	7/15/24 900
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

15 pk

Page 1 of 2

OrderID: 042414558

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EMSL
CINNAMINSON, N.J.
2024 JUL 15 A 9:52

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042414558

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-070924-AB	DK864862	7,216.441	07/09/24 1313
MFL-FB01-070924-AB	DK864976	0	07/09/24 1200
MFL-AM01-071024-AB	DK864892	7,271.042	07/10/24 1059
MFL-AM02-071024-AB	DK864961	7,197.120	07/10/24 1116
MFL-AM03-071024-AB	DK864844	6,997.713	07/10/24 1300
MFL-AM04-071024-AB	DK864848	7,161.408	07/10/24 1315
MFL-FB01-071024-AB	DK864850	0	07/10/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/11/24 400	Received by: Fx	Date/Time: 7/15/24 9[illegible]
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/22/2024 and Shanna Vasser 7/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/08/2024 – 07/10/2024
Report No: 42414558

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 24, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/15/24 16:56.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-070424-HM	4071551-01	Air	07/04/24 23:59	07/15/24 16:56
MFL-AM02-070424-HM	4071551-02	Air	07/04/24 23:59	07/15/24 16:56
MFL-AM03-070424-HM	4071551-03	Air	07/04/24 23:59	07/15/24 16:56
MFL-AM04-070424-HM	4071551-04	Air	07/04/24 23:59	07/15/24 16:56
MFL-FB01-070424-HM	4071551-05	Air	07/04/24 00:00	07/15/24 16:56
MFL-AM01-070524-HM	4071551-06	Air	07/05/24 23:59	07/15/24 16:56
MFL-AM02-070524-HM	4071551-07	Air	07/05/24 23:59	07/15/24 16:56
MFL-AM03-070524-HM	4071551-08	Air	07/05/24 23:59	07/15/24 16:56
MFL-AM04-070524-HM	4071551-09	Air	07/05/24 23:59	07/15/24 16:56
MFL-AM01-070624-HM	4071551-10	Air	07/06/24 23:59	07/15/24 16:56
MFL-AM02-070624-HM	4071551-11	Air	07/06/24 23:59	07/15/24 16:56
MFL-AM03-070624-HM	4071551-12	Air	07/06/24 23:59	07/15/24 16:56
MFL-AM04-070624-HM	4071551-13	Air	07/06/24 23:59	07/15/24 16:56
MFL-FB01-070624-HM	4071551-14	Air	07/06/24 00:00	07/15/24 16:56
MFL-AM01-070724-HM	4071551-15	Air	07/07/24 23:59	07/15/24 16:56
MFL-AM02-070724-HM	4071551-16	Air	07/07/24 23:59	07/15/24 16:56
MFL-AM03-070724-HM	4071551-17	Air	07/07/24 23:59	07/15/24 16:56
MFL-AM04-070724-HM	4071551-18	Air	07/07/24 23:59	07/15/24 16:56
MFL-AM01-070824-HM	4071551-19	Air	07/08/24 23:59	07/15/24 16:56
MFL-AM02-070824-HM	4071551-20	Air	07/08/24 23:59	07/15/24 16:56
MFL-AM03-070824-HM	4071551-21	Air	07/08/24 23:59	07/15/24 16:56

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-070824-HM	4071551-22	Air	07/08/24 23:59	07/15/24 16:56
MFL-FB01-070824-HM	4071551-23	Air	07/08/24 00:00	07/15/24 16:56
MFL-AM01-070924-HM	4071551-24	Air	07/09/24 23:59	07/15/24 16:56
MFL-AM02-070924-HM	4071551-25	Air	07/09/24 23:59	07/15/24 16:56
MFL-AM03-070924-HM	4071551-26	Air	07/09/24 23:59	07/15/24 16:56
MFL-AM04-070924-HM	4071551-27	Air	07/09/24 23:59	07/15/24 16:56
MFL-AM01-071024-HM	4071551-28	Air	07/10/24 23:59	07/15/24 16:56
MFL-AM02-071024-HM	4071551-29	Air	07/10/24 23:59	07/15/24 16:56
MFL-AM03-071024-HM	4071551-30	Air	07/10/24 23:59	07/15/24 16:56
MFL-AM04-071024-HM	4071551-31	Air	07/10/24 23:59	07/15/24 16:56
MFL-FB01-071024-HM	4071551-32	Air	07/10/24 00:00	07/15/24 16:56
MFL-LB01-070424-HM	4071551-33	Air	07/04/24 00:00	07/15/24 16:56
MFL-LB01-070524-HM	4071551-34	Air	07/05/24 00:00	07/15/24 16:56
MFL-LB01-070624-HM	4071551-35	Air	07/06/24 00:00	07/15/24 16:56

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070424-HM
Matrix: Air
Lab ID: 4071551-01
Sample Volume: 1879.261 m³
Filter ID:
Sampled: 07/04/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 22:37

Comments: Q8520607 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0618**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.989**		**0.00811**
Barium	**7440-39-3**	**12.8**		**0.926**
Beryllium	**7440-41-7**	**0.0584**		**0.00277**
Cadmium	7440-43-9	0.0197	U	0.0642
Chromium	**7440-47-3**	**11.8**		**1.91**
Cobalt	**7440-48-4**	**2.89**		**0.0377**
Copper	**7440-50-8**	**112**		**2.28**
Lead	**7439-92-1**	**0.922**		**0.185**
Manganese	**7439-96-5**	**63.2**		**1.64**
Molybdenum	**7439-98-7**	**4.79**		**0.311**
Nickel	**7440-02-0**	**7.35**		**0.564**
Selenium	**7782-49-2**	**0.258**	LJ, QX	**0.00776**
Thallium	**7440-28-0**	**0.00298**		**5.10E-4**
Vanadium	**7440-62-2**	**8.25**		**0.0458**
Zinc	7440-66-6	17.4	U	66.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070424-HM
Matrix: Air
Lab ID: 4071551-02RE1
Sample Volume: 2015.157 m³
Filter ID:
Sampled: 07/04/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 19:24

Comments: Q8520606 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.126**		**0.0312**
Arsenic	**7440-38-2**	**0.459**		**0.00757**
Barium	**7440-39-3**	**3.91**		**0.864**
Beryllium	**7440-41-7**	**0.0107**		**0.00258**
Cadmium	7440-43-9	0.0164	U	0.0598
Chromium	**7440-47-3**	**2.07**		**1.78**
Cobalt	**7440-48-4**	**0.348**		**0.0352**
Copper	**7440-50-8**	**35.2**		**2.12**
Lead	**7439-92-1**	**1.05**		**0.173**
Manganese	**7439-96-5**	**10.5**		**1.53**
Molybdenum	**7439-98-7**	**1.58**		**0.290**
Nickel	**7440-02-0**	**1.28**		**0.526**
Selenium	**7782-49-2**	**0.143**		**0.00723**
Thallium	**7440-28-0**	**9.52E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**1.30**		**0.0427**
Zinc	7440-66-6	15.6	U	62.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070424-HM
Matrix: Air
Lab ID: 4071551-03
Sample Volume: 2005.916 m³
Filter ID:
Sampled: 07/04/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 22:57

Comments: Q8507546 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0751**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.258**		**0.00760**
Barium	**7440-39-3**	**3.70**		**0.868**
Beryllium	**7440-41-7**	**0.0334**		**0.00260**
Cadmium	7440-43-9	0.00960	U	0.0601
Chromium	**7440-47-3**	**2.78**		**1.79**
Cobalt	**7440-48-4**	**0.583**		**0.0354**
Copper	**7440-50-8**	**64.7**		**2.13**
Lead	**7439-92-1**	**0.552**		**0.174**
Manganese	**7439-96-5**	**15.6**		**1.53**
Molybdenum	**7439-98-7**	**3.86**		**0.291**
Nickel	**7440-02-0**	**1.58**		**0.529**
Selenium	**7782-49-2**	**0.170**	LJ, QX	**0.00727**
Thallium	**7440-28-0**	**0.00124**		**4.78E-4**
Vanadium	**7440-62-2**	**1.71**		**0.0429**
Zinc	7440-66-6	9.48	U	62.3

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070424-HM
Matrix: Air
Lab ID: 4071551-04
Sample Volume: 1835.791 m³
Filter ID:
Sampled: 07/04/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 23:08

Comments: Q8507545 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0934**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.417**		**0.00830**
Barium	**7440-39-3**	**3.65**		**0.948**
Beryllium	**7440-41-7**	**0.0125**		**0.00284**
Cadmium	7440-43-9	0.0119	U	0.0657
Chromium	**7440-47-3**	**2.51**		**1.96**
Cobalt	**7440-48-4**	**0.398**		**0.0386**
Copper	**7440-50-8**	**30.4**		**2.33**
Lead	**7439-92-1**	**0.904**		**0.190**
Manganese	**7439-96-5**	**13.4**		**1.68**
Molybdenum	**7439-98-7**	**1.96**		**0.318**
Nickel	**7440-02-0**	**1.48**		**0.578**
Selenium	**7782-49-2**	**0.138**	LJ, QX	**0.00794**
Thallium	**7440-28-0**	**0.00103**		**5.22E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0469**
Zinc	7440-66-6	13.0	U	68.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-070424-HM
Matrix: Air
Lab ID: 4071551-05
Sample Volume: 1879.261 m³
Filter ID:
Sampled: 07/04/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/18/24 23:18

Comments: Q9543370 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0149	U, SL	0.0334
Arsenic	7440-38-2	0.00442	U	0.00811
Barium	7440-39-3	0.418	U	0.926
Beryllium	7440-41-7	9.86E-4	U	0.00277
Cadmium	7440-43-9	0.00265	U	0.0642
Chromium	7440-47-3	1.29	U	1.91
Cobalt	7440-48-4	0.0293	U	0.0377
Copper	7440-50-8	0.389	U	2.28
Lead	7439-92-1	0.0348	U	0.185
Manganese	7439-96-5	0.217	U	1.64
Molybdenum	7439-98-7	0.174	U	0.311
Nickel	7440-02-0	0.304	U	0.564
Selenium	7782-49-2	ND	LJ, QX, U	0.00776
Thallium	7440-28-0	1.01E-4	U	5.10E-4
Vanadium	7440-62-2	0.0171	U	0.0458
Zinc	7440-66-6	4.44	U	66.5

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070524-HM
Matrix: Air
Lab ID: 4071551-06
Sample Volume: 1890.643 m³
Filter ID:
Sampled: 07/05/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 23:28

Comments: Q8507543 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	**7440-41-7**	**0.0706**		**0.00275**
Cadmium	7440-43-9	0.0305	LL, QX, U	0.0638
Chromium	**7440-47-3**	**14.9**		**1.90**
Cobalt	**7440-48-4**	**2.93**		**0.0375**
Copper	**7440-50-8**	**236**		**2.26**
Lead	7439-92-1	0.0757	LL, QX, U	0.184
Manganese	**7439-96-5**	**74.1**		**1.63**
Nickel	**7440-02-0**	**5.75**		**0.561**
Thallium	7440-28-0	2.65E-4	LL, QX, U	5.07E-4
Vanadium	**7440-62-2**	**8.55**		**0.0455**
Zinc	7440-66-6	23.0	U	66.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070524-HM
Matrix: Air
Lab ID: 4071551-06RE1
Sample Volume: 1890.643 m³
Filter ID:
Sampled: 07/05/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 19:34

Comments: Q8507543 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.155	D	0.0664
Arsenic	7440-38-2	2.26	D	0.0161
Barium	7440-39-3	94.9	D	1.84
Molybdenum	7439-98-7	5.15	D	0.618
Selenium	7782-49-2	0.384	D	0.0154

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070524-HM
Matrix: Air
Lab ID: 4071551-07
Sample Volume: 2047.508 m³
Filter ID:
Sampled: 07/05/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 23:49

Comments: Q8507542 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.536**		**0.00745**
Barium	**7440-39-3**	**53.2**		**0.850**
Beryllium	**7440-41-7**	**0.0202**		**0.00254**
Cadmium	7440-43-9	0.0475	U	0.0589
Chromium	**7440-47-3**	**5.14**		**1.76**
Cobalt	**7440-48-4**	**0.699**		**0.0346**
Copper	**7440-50-8**	**69.0**		**2.09**
Lead	**7439-92-1**	**0.280**	LL, QX	**0.170**
Manganese	**7439-96-5**	**20.1**		**1.50**
Molybdenum	**7439-98-7**	**2.12**		**0.285**
Nickel	**7440-02-0**	**2.26**		**0.518**
Selenium	**7782-49-2**	**0.209**	LJ, QX	**0.00712**
Thallium	7440-28-0	4.34E-4	U, LL, QX	4.68E-4
Vanadium	**7440-62-2**	**2.46**		**0.0420**
Zinc	7440-66-6	18.6	U	61.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070524-HM
Matrix: Air
Lab ID: 4071551-08
Sample Volume: 2070.675 m³
Filter ID:
Sampled: 07/05/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 00:00

Comments: Q8507541 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0509**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.203**		**0.00736**
Barium	**7440-39-3**	**6.02**		**0.841**
Beryllium	**7440-41-7**	**0.0243**		**0.00251**
Cadmium	7440-43-9	0.00970	U	0.0582
Chromium	**7440-47-3**	**3.09**		**1.74**
Cobalt	**7440-48-4**	**0.513**		**0.0343**
Copper	**7440-50-8**	**50.6**		**2.07**
Lead	**7439-92-1**	**0.394**		**0.168**
Manganese	**7439-96-5**	**13.1**		**1.49**
Molybdenum	**7439-98-7**	**2.52**		**0.282**
Nickel	**7440-02-0**	**1.67**		**0.512**
Selenium	**7782-49-2**	**0.150**	LJ, QX	**0.00704**
Thallium	**7440-28-0**	**8.24E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0416**
Zinc	7440-66-6	12.0	U	60.3

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070524-HM
Matrix: Air
Lab ID: 4071551-09
Sample Volume: 1777.771 m³
Filter ID:
Sampled: 07/05/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 00:10

Comments: Q9543369 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0977**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.507**		**0.00858**
Barium	**7440-39-3**	**6.58**		**0.979**
Beryllium	**7440-41-7**	**0.0177**		**0.00293**
Cadmium	7440-43-9	0.0168	U	0.0678
Chromium	**7440-47-3**	**3.32**		**2.02**
Cobalt	**7440-48-4**	**0.538**		**0.0399**
Copper	**7440-50-8**	**39.9**		**2.41**
Lead	**7439-92-1**	**0.905**		**0.196**
Manganese	**7439-96-5**	**17.7**		**1.73**
Molybdenum	**7439-98-7**	**1.97**		**0.329**
Nickel	**7440-02-0**	**1.53**		**0.597**
Selenium	**7782-49-2**	**0.186**	LJ, QX	**0.00820**
Thallium	**7440-28-0**	**0.00101**		**5.39E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0484**
Zinc	7440-66-6	20.9	U	70.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070624-HM
Matrix: Air
Lab ID: 4071551-10
Sample Volume: 1937.099 m³
Filter ID:
Sampled: 07/06/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 00:41

Comments: Q9543368 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.126**	SL	**0.0324**
Arsenic	**7440-38-2**	**2.86**		**0.00787**
Barium	**7440-39-3**	**8.89**		**0.899**
Beryllium	**7440-41-7**	**0.0329**		**0.00269**
Cadmium	7440-43-9	0.0355	U	0.0622
Chromium	**7440-47-3**	**8.31**		**1.86**
Cobalt	**7440-48-4**	**1.42**		**0.0366**
Copper	**7440-50-8**	**121**		**2.21**
Lead	**7439-92-1**	**0.780**		**0.180**
Manganese	**7439-96-5**	**36.8**		**1.59**
Molybdenum	**7439-98-7**	**5.29**		**0.302**
Nickel	**7440-02-0**	**3.28**		**0.548**
Selenium	**7782-49-2**	**0.230**	LJ, QX	**0.00753**
Thallium	**7440-28-0**	**0.00209**		**4.95E-4**
Vanadium	**7440-62-2**	**3.91**		**0.0444**
Zinc	7440-66-6	20.1	U	64.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070624-HM
Matrix: Air
Lab ID: 4071551-11
Sample Volume: 2011.8 m³
Filter ID:
Sampled: 07/06/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 00:51

Comments: Q9543366 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.344**		**0.00758**
Barium	**7440-39-3**	**4.70**		**0.865**
Beryllium	**7440-41-7**	**0.0142**		**0.00259**
Cadmium	7440-43-9	0.0160	U	0.0599
Chromium	**7440-47-3**	**2.57**		**1.79**
Cobalt	**7440-48-4**	**0.407**		**0.0353**
Copper	**7440-50-8**	**43.9**		**2.13**
Lead	**7439-92-1**	**0.772**		**0.173**
Manganese	**7439-96-5**	**12.6**		**1.53**
Molybdenum	**7439-98-7**	**2.31**		**0.290**
Nickel	**7440-02-0**	**1.27**		**0.527**
Selenium	**7782-49-2**	**0.203**	LJ, QX	**0.00725**
Thallium	**7440-28-0**	**0.00132**		**4.76E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0428**
Zinc	7440-66-6	16.6	U	62.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070624-HM
Matrix: Air
Lab ID: 4071551-12
Sample Volume: 2030.061 m³
Filter ID:
Sampled: 07/06/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:02

Comments: Q9543364 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0436**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.392**		**0.00751**
Barium	**7440-39-3**	**5.35**		**0.858**
Beryllium	**7440-41-7**	**0.0764**		**0.00256**
Cadmium	7440-43-9	0.0179	U	0.0594
Chromium	**7440-47-3**	**5.16**		**1.77**
Cobalt	**7440-48-4**	**1.15**		**0.0349**
Copper	**7440-50-8**	**49.2**		**2.11**
Lead	**7439-92-1**	**0.714**		**0.172**
Manganese	**7439-96-5**	**30.0**		**1.51**
Molybdenum	**7439-98-7**	**1.92**		**0.288**
Nickel	**7440-02-0**	**2.65**		**0.523**
Selenium	**7782-49-2**	**0.236**	LJ, QX	**0.00718**
Thallium	**7440-28-0**	**0.00201**		**4.72E-4**
Vanadium	**7440-62-2**	**2.94**		**0.0424**
Zinc	7440-66-6	15.5	U	61.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070624-HM
Matrix: Air
Lab ID: 4071551-13
Sample Volume: 1785.95 m³
Filter ID:
Sampled: 07/06/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:12

Comments: Q9543361 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0828**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.423**		**0.00854**
Barium	**7440-39-3**	**3.90**		**0.975**
Beryllium	**7440-41-7**	**0.0144**		**0.00292**
Cadmium	7440-43-9	0.0183	U	0.0675
Chromium	**7440-47-3**	**3.12**		**2.01**
Cobalt	**7440-48-4**	**0.429**		**0.0397**
Copper	**7440-50-8**	**41.1**		**2.40**
Lead	**7439-92-1**	**0.834**		**0.195**
Manganese	**7439-96-5**	**14.5**		**1.72**
Molybdenum	**7439-98-7**	**1.98**		**0.327**
Nickel	**7440-02-0**	**1.32**		**0.594**
Selenium	**7782-49-2**	**0.194**	LJ, QX	**0.00816**
Thallium	**7440-28-0**	**0.00133**		**5.37E-4**
Vanadium	**7440-62-2**	**1.30**		**0.0482**
Zinc	7440-66-6	16.1	U	70.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-070624-HM
Matrix: Air
Lab ID: 4071551-14
Sample Volume: 1937.099 m³
Filter ID:
Sampled: 07/06/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:23

Comments: Q9546654 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00659	U, SL	0.0324
Arsenic	7440-38-2	0.00579	U	0.00787
Barium	7440-39-3	0.609	U	0.899
Beryllium	7440-41-7	0.00113	U	0.00269
Cadmium	7440-43-9	0.00218	U	0.0622
Chromium	7440-47-3	1.55	U	1.86
Cobalt	7440-48-4	0.0248	U	0.0366
Copper	7440-50-8	0.343	U	2.21
Lead	7439-92-1	0.0562	U	0.180
Manganese	7439-96-5	0.170	U	1.59
Molybdenum	7439-98-7	0.245	U	0.302
Nickel	7440-02-0	0.270	U	0.548
Selenium	7782-49-2	0.00250	U, LJ, QX	0.00753
Thallium	7440-28-0	8.51E-5	U	4.95E-4
Vanadium	7440-62-2	0.0220	U	0.0444
Zinc	7440-66-6	4.54	U	64.5

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070724-HM
Matrix: Air
Lab ID: 4071551-15
Sample Volume: 1927.401 m³
Filter ID:
Sampled: 07/07/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:33

Comments: Q9543360 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0664**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.831**		**0.00791**
Barium	**7440-39-3**	**4.71**		**0.903**
Beryllium	**7440-41-7**	**0.0143**		**0.00270**
Cadmium	7440-43-9	0.0165	U	0.0626
Chromium	**7440-47-3**	**3.16**		**1.87**
Cobalt	**7440-48-4**	**0.533**		**0.0368**
Copper	**7440-50-8**	**135**		**2.22**
Lead	**7439-92-1**	**0.446**		**0.181**
Manganese	**7439-96-5**	**14.6**		**1.60**
Molybdenum	**7439-98-7**	**6.18**		**0.303**
Nickel	**7440-02-0**	**1.49**		**0.550**
Selenium	**7782-49-2**	**0.156**	LJ, QX	**0.00756**
Thallium	**7440-28-0**	**0.00127**		**4.97E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0447**
Zinc	7440-66-6	11.9	U	64.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070724-HM
Matrix: Air
Lab ID: 4071551-16
Sample Volume: 2017.377 m³
Filter ID:
Sampled: 07/07/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 19:09

Comments: Q9543359 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.516**		**0.00756**
Barium	**7440-39-3**	**5.90**		**0.863**
Beryllium	**7440-41-7**	**0.0195**		**0.00258**
Cadmium	**7440-43-9**	**0.0624**		**0.0598**
Chromium	**7440-47-3**	**2.55**		**1.78**
Cobalt	**7440-48-4**	**0.464**		**0.0352**
Copper	**7440-50-8**	**45.0**		**2.12**
Lead	**7439-92-1**	**1.45**		**0.173**
Manganese	**7439-96-5**	**15.2**		**1.52**
Molybdenum	**7439-98-7**	**1.81**		**0.290**
Nickel	**7440-02-0**	**1.45**		**0.526**
Selenium	**7782-49-2**	**0.196**	LJ, QX	**0.00723**
Thallium	**7440-28-0**	**0.00156**		**4.75E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0427**
Zinc	7440-66-6	19.1	U	61.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070724-HM
Matrix: Air
Lab ID: 4071551-17
Sample Volume: 2039.692 m³
Filter ID:
Sampled: 07/07/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:43

Comments: Q9543358 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0386**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.161**		**0.00747**
Barium	**7440-39-3**	**2.47**		**0.854**
Beryllium	**7440-41-7**	**0.0218**		**0.00255**
Cadmium	7440-43-9	0.0151	U	0.0591
Chromium	**7440-47-3**	**3.15**		**1.76**
Cobalt	**7440-48-4**	**0.361**		**0.0348**
Copper	**7440-50-8**	**45.8**		**2.10**
Lead	**7439-92-1**	**0.350**		**0.171**
Manganese	**7439-96-5**	**9.08**		**1.51**
Molybdenum	**7439-98-7**	**2.45**		**0.286**
Nickel	**7440-02-0**	**1.53**		**0.520**
Selenium	**7782-49-2**	**0.156**	LJ, QX	**0.00715**
Thallium	**7440-28-0**	**0.00114**		**4.70E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0422**
Zinc	7440-66-6	18.4	U	61.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070724-HM
Matrix: Air
Lab ID: 4071551-18
Sample Volume: 1790.514 m³
Filter ID:
Sampled: 07/07/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 01:54

Comments: Q9546655 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0624**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.444**		**0.00851**
Barium	**7440-39-3**	**3.26**		**0.972**
Beryllium	**7440-41-7**	**0.0151**		**0.00291**
Cadmium	**7440-43-9**	**0.382**		**0.0673**
Chromium	**7440-47-3**	**3.21**		**2.01**
Cobalt	**7440-48-4**	**0.395**		**0.0396**
Copper	**7440-50-8**	**35.5**		**2.39**
Lead	**7439-92-1**	**0.784**		**0.194**
Manganese	**7439-96-5**	**13.2**		**1.72**
Molybdenum	**7439-98-7**	**2.10**		**0.326**
Nickel	**7440-02-0**	**1.30**		**0.592**
Selenium	**7782-49-2**	**0.154**	LJ, QX	**0.00814**
Thallium	**7440-28-0**	**0.00126**		**5.35E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0481**
Zinc	7440-66-6	16.3	U	69.8

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070824-HM
Matrix: Air
Lab ID: 4071551-19
Sample Volume: 1878.478 m³
Filter ID:
Sampled: 07/08/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 02:04

Comments: Q9546670 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0608**	SL	**0.0334**
Arsenic	**7440-38-2**	**1.48**		**0.00812**
Barium	**7440-39-3**	**6.60**		**0.927**
Beryllium	**7440-41-7**	**0.0196**		**0.00277**
Cadmium	7440-43-9	0.0237	U	0.0642
Chromium	**7440-47-3**	**4.70**		**1.91**
Cobalt	**7440-48-4**	**0.842**		**0.0378**
Copper	**7440-50-8**	**160**		**2.28**
Lead	**7439-92-1**	**0.520**		**0.185**
Manganese	**7439-96-5**	**23.7**		**1.64**
Molybdenum	**7439-98-7**	**8.87**		**0.311**
Nickel	**7440-02-0**	**2.09**		**0.565**
Selenium	**7782-49-2**	**0.149**	LJ, QX	**0.00776**
Thallium	**7440-28-0**	**0.00161**		**5.10E-4**
Vanadium	**7440-62-2**	**2.32**		**0.0458**
Zinc	7440-66-6	13.4	U	66.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070824-HM
Matrix: Air
Lab ID: 4071551-20
Sample Volume: 2048.363 m³
Filter ID:
Sampled: 07/08/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 02:14

Comments: Q9546669 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.624**		**0.00744**
Barium	**7440-39-3**	**3.97**		**0.850**
Beryllium	**7440-41-7**	**0.0159**		**0.00254**
Cadmium	7440-43-9	0.0273	U	0.0589
Chromium	**7440-47-3**	**3.05**		**1.76**
Cobalt	**7440-48-4**	**0.467**		**0.0346**
Copper	**7440-50-8**	**46.3**		**2.09**
Lead	**7439-92-1**	**1.48**		**0.170**
Manganese	**7439-96-5**	**13.8**		**1.50**
Molybdenum	**7439-98-7**	**1.98**		**0.285**
Nickel	**7440-02-0**	**1.48**		**0.518**
Selenium	**7782-49-2**	**0.151**	LJ, QX	**0.00712**
Thallium	**7440-28-0**	**8.85E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0420**
Zinc	7440-66-6	16.1	U	61.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070824-HM
Matrix: Air
Lab ID: 4071551-21
Sample Volume: 1982.637 m³
Filter ID:
Sampled: 07/08/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/18/24 21:14

Comments: Q9546666 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0313	SL, U	0.0317
Arsenic	**7440-38-2**	**0.207**		**0.00769**
Barium	**7440-39-3**	**2.60**		**0.878**
Beryllium	**7440-41-7**	**0.0229**		**0.00263**
Cadmium	7440-43-9	0.00935	U	0.0608
Chromium	**7440-47-3**	**2.89**		**1.81**
Cobalt	**7440-48-4**	**0.423**		**0.0358**
Copper	**7440-50-8**	**41.0**		**2.16**
Lead	**7439-92-1**	**0.621**		**0.176**
Manganese	**7439-96-5**	**10.8**		**1.55**
Molybdenum	**7439-98-7**	**2.13**		**0.295**
Nickel	**7440-02-0**	**1.32**		**0.535**
Selenium	**7782-49-2**	**0.119**	LJ, QX	**0.00735**
Thallium	**7440-28-0**	**7.95E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0434**
Zinc	7440-66-6	12.9	U	63.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070824-HM
Matrix: Air
Lab ID: 4071551-22
Sample Volume: 1827.391 m³
Filter ID:
Sampled: 07/08/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 02:46

Comments: Q9546663 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0598**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.497**		**0.00834**
Barium	**7440-39-3**	**3.51**		**0.953**
Beryllium	**7440-41-7**	**0.0128**		**0.00285**
Cadmium	7440-43-9	0.0140	U	0.0660
Chromium	**7440-47-3**	**3.23**		**1.97**
Cobalt	**7440-48-4**	**0.462**		**0.0388**
Copper	**7440-50-8**	**29.9**		**2.34**
Lead	**7439-92-1**	**0.822**		**0.191**
Manganese	**7439-96-5**	**13.3**		**1.68**
Molybdenum	**7439-98-7**	**1.50**		**0.320**
Nickel	**7440-02-0**	**1.36**		**0.581**
Selenium	**7782-49-2**	**0.133**	LJ, QX	**0.00798**
Thallium	**7440-28-0**	**8.35E-4**		**5.24E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0471**
Zinc	7440-66-6	15.2	U	68.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-070824-HM
Matrix: Air
Lab ID: 4071551-23
Sample Volume: 1878.478 m³
Filter ID:
Sampled: 07/08/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 02:56

Comments: Q9546659 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00654	SL, U	0.0334
Arsenic	7440-38-2	0.00493	U	0.00812
Barium	7440-39-3	0.579	U	0.927
Beryllium	7440-41-7	9.88E-4	U	0.00277
Cadmium	7440-43-9	0.00216	U	0.0642
Chromium	7440-47-3	1.49	U	1.91
Cobalt	7440-48-4	0.0248	U	0.0378
Copper	7440-50-8	0.336	U	2.28
Lead	7439-92-1	0.0537	U	0.185
Manganese	7439-96-5	0.210	U	1.64
Molybdenum	7439-98-7	0.242	U	0.311
Nickel	7440-02-0	0.288	U	0.565
Selenium	7782-49-2	8.21E-4	LJ, QX, U	0.00776
Thallium	7440-28-0	1.45E-4	U	5.10E-4
Vanadium	7440-62-2	0.00601	U	0.0458
Zinc	7440-66-6	5.87	U	66.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-070924-HM
Matrix: Air
Lab ID: 4071551-24
Sample Volume: 1896.974 m³
Filter ID:
Sampled: 07/09/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:06

Comments: Q9546657 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.260**	SL	**0.0331**
Arsenic	**7440-38-2**	**8.37**		**0.00804**
Barium	**7440-39-3**	**9.93**		**0.918**
Beryllium	**7440-41-7**	**0.0211**		**0.00274**
Cadmium	**7440-43-9**	**0.116**		**0.0636**
Chromium	**7440-47-3**	**7.50**		**1.90**
Cobalt	**7440-48-4**	**0.899**		**0.0374**
Copper	**7440-50-8**	**162**		**2.26**
Lead	**7439-92-1**	**0.571**		**0.184**
Manganese	**7439-96-5**	**23.8**		**1.62**
Molybdenum	**7439-98-7**	**8.75**		**0.308**
Nickel	**7440-02-0**	**2.53**		**0.559**
Selenium	**7782-49-2**	**0.166**	LJ, QX	**0.00768**
Thallium	**7440-28-0**	**0.00127**		**5.05E-4**
Vanadium	**7440-62-2**	**2.51**		**0.0454**
Zinc	7440-66-6	23.6	U	65.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-070924-HM
Matrix: Air
Lab ID: 4071551-25
Sample Volume: 2030.081 m³
Filter ID:
Sampled: 07/09/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:17

Comments: Q9546656 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0866**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.776**		**0.00751**
Barium	**7440-39-3**	**8.08**		**0.858**
Beryllium	**7440-41-7**	**0.0347**		**0.00256**
Cadmium	7440-43-9	0.0269	U	0.0594
Chromium	**7440-47-3**	**6.00**		**1.77**
Cobalt	**7440-48-4**	**1.23**		**0.0349**
Copper	**7440-50-8**	**58.9**		**2.11**
Lead	**7439-92-1**	**2.32**		**0.172**
Manganese	**7439-96-5**	**34.2**		**1.51**
Molybdenum	**7439-98-7**	**2.02**		**0.288**
Nickel	**7440-02-0**	**3.69**		**0.523**
Selenium	**7782-49-2**	**0.215**	LJ, QX	**0.00718**
Thallium	**7440-28-0**	**0.00169**		**4.72E-4**
Vanadium	**7440-62-2**	**3.72**		**0.0424**
Zinc	7440-66-6	27.7	U	61.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-070924-HM
Matrix: Air
Lab ID: 4071551-26
Sample Volume: 1869.644 m³
Filter ID:
Sampled: 07/09/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:27

Comments: Q9546638 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0526**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.346**		**0.00815**
Barium	**7440-39-3**	**4.02**		**0.931**
Beryllium	**7440-41-7**	**0.0345**		**0.00278**
Cadmium	7440-43-9	0.0191	U	0.0645
Chromium	**7440-47-3**	**4.09**		**1.92**
Cobalt	**7440-48-4**	**0.742**		**0.0379**
Copper	**7440-50-8**	**67.8**		**2.29**
Lead	**7439-92-1**	**0.934**		**0.186**
Manganese	**7439-96-5**	**18.6**		**1.64**
Molybdenum	**7439-98-7**	**2.75**		**0.312**
Nickel	**7440-02-0**	**2.18**		**0.567**
Selenium	**7782-49-2**	**0.188**	LJ, QX	**0.00780**
Thallium	**7440-28-0**	**0.00126**		**5.13E-4**
Vanadium	**7440-62-2**	**1.90**		**0.0460**
Zinc	7440-66-6	25.8	U	66.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-070924-HM
Matrix: Air
Lab ID: 4071551-27
Sample Volume: 1879.422 m³
Filter ID:
Sampled: 07/09/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:38

Comments: Q9546653 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.759**		**0.00811**
Barium	**7440-39-3**	**5.93**		**0.926**
Beryllium	**7440-41-7**	**0.0215**		**0.00277**
Cadmium	**7440-43-9**	**0.0862**		**0.0641**
Chromium	**7440-47-3**	**4.25**		**1.91**
Cobalt	**7440-48-4**	**0.768**		**0.0377**
Copper	**7440-50-8**	**32.9**		**2.28**
Lead	**7439-92-1**	**1.42**		**0.185**
Manganese	**7439-96-5**	**24.2**		**1.64**
Molybdenum	**7439-98-7**	**1.32**		**0.311**
Nickel	**7440-02-0**	**2.30**		**0.564**
Selenium	**7782-49-2**	**0.181**	LJ, QX	**0.00776**
Thallium	**7440-28-0**	**0.00124**		**5.10E-4**
Vanadium	**7440-62-2**	**2.04**		**0.0458**
Zinc	7440-66-6	33.3	U	66.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071024-HM
Matrix: Air
Lab ID: 4071551-28
Sample Volume: 1892.226 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:48

Comments: Q9546652 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0332**
Barium	**7440-39-3**	**14.3**		**0.920**
Beryllium	**7440-41-7**	**0.0684**		**0.00275**
Cadmium	**7440-43-9**	**0.0985**	LL, QX	**0.0637**
Chromium	**7440-47-3**	**13.6**		**1.90**
Cobalt	**7440-48-4**	**3.29**		**0.0375**
Copper	**7440-50-8**	**109**		**2.26**
Manganese	**7439-96-5**	**76.4**		**1.63**
Nickel	**7440-02-0**	**6.98**		**0.561**
Vanadium	**7440-62-2**	**8.62**		**0.0455**
Zinc	7440-66-6	21.3	U	66.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071024-HM
Matrix: Air
Lab ID: 4071551-28RE1
Sample Volume: 1892.226 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 20:05

Comments: Q9546652 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	5.16	D	0.0161
Lead	7439-92-1	0.811	D	0.368
Molybdenum	7439-98-7	5.68	D	0.617
Selenium	7782-49-2	0.341	D	0.0154
Thallium	7440-28-0	0.00321	D	0.00101

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071024-HM
Matrix: Air
Lab ID: 4071551-29
Sample Volume: 2031.775 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 03:58

Comments: Q9546651 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0309**
Barium	**7440-39-3**	**13.8**		**0.857**
Beryllium	**7440-41-7**	**0.0790**		**0.00256**
Chromium	**7440-47-3**	**14.6**		**1.77**
Cobalt	**7440-48-4**	**3.67**		**0.0349**
Copper	**7440-50-8**	**58.6**		**2.11**
Lead	**7439-92-1**	**2.17**		**0.171**
Manganese	**7439-96-5**	**85.3**		**1.51**
Nickel	**7440-02-0**	**9.84**		**0.522**
Thallium	**7440-28-0**	**0.00362**		**4.72E-4**
Zinc	7440-66-6	27.4	U	61.5

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071024-HM
Matrix: Air
Lab ID: 4071551-29RE1
Sample Volume: 2031.775 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 20:16

Comments: Q9546651 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**1.09**	D	**0.0150**
Cadmium	7440-43-9	0.115	U, D	0.119
Molybdenum	**7439-98-7**	**2.27**	D	**0.575**
Selenium	**7782-49-2**	**0.363**	D	**0.0143**
Vanadium	**7440-62-2**	**9.78**	D	**0.0847**

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FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071024-HM
Matrix: Air
Lab ID: 4071551-30
Sample Volume: 1939.37 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 04:09

Comments: Q9546650 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0322	U, SL	0.0324
Arsenic	**7440-38-2**	**0.232**		**0.00786**
Barium	**7440-39-3**	**4.02**		**0.898**
Beryllium	**7440-41-7**	**0.0426**		**0.00268**
Cadmium	7440-43-9	0.0133	U	0.0622
Chromium	**7440-47-3**	**4.27**		**1.85**
Cobalt	**7440-48-4**	**0.747**		**0.0366**
Copper	**7440-50-8**	**49.4**		**2.21**
Lead	**7439-92-1**	**0.570**		**0.180**
Manganese	**7439-96-5**	**18.7**		**1.59**
Molybdenum	**7439-98-7**	**2.18**		**0.301**
Nickel	**7440-02-0**	**1.95**		**0.547**
Selenium	**7782-49-2**	**0.186**	LJ, QX	**0.00752**
Thallium	**7440-28-0**	**0.00143**		**4.94E-4**
Vanadium	**7440-62-2**	**2.01**		**0.0444**
Zinc	7440-66-6	12.0	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071024-HM
Matrix: Air
Lab ID: 4071551-31
Sample Volume: 1807.092 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 04:40

Comments: Q9546647 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0348**
Barium	**7440-39-3**	**10.6**		**0.963**
Beryllium	**7440-41-7**	**0.0606**		**0.00288**
Chromium	**7440-47-3**	**7.59**		**1.99**
Cobalt	**7440-48-4**	**1.73**		**0.0393**
Copper	**7440-50-8**	**36.5**		**2.37**
Lead	**7439-92-1**	**2.44**		**0.193**
Manganese	**7439-96-5**	**61.8**		**1.70**
Nickel	**7440-02-0**	**4.80**		**0.587**
Thallium	**7440-28-0**	**0.00250**		**5.30E-4**
Vanadium	**7440-62-2**	**4.16**		**0.0476**
Zinc	7440-66-6	38.7	U	69.1

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REPORTED: 07/24/24 14:27
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AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071024-HM
Matrix: Air
Lab ID: 4071551-31RE1
Sample Volume: 1807.092 m³
Filter ID:
Sampled: 07/10/24 23:59
Received: 07/15/24 16:56
Analysis Date: 07/19/24 20:26

Comments: Q9546647 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**1.21**	D	**0.0169**
Cadmium	7440-43-9	0.0370	U, D	0.133
Molybdenum	**7439-98-7**	**1.24**	D	**0.646**
Selenium	**7782-49-2**	**0.334**	D	**0.0161**

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AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071024-HM
Matrix: Air
Lab ID: 4071551-32
Sample Volume: 1892.226 m³
Filter ID:
Sampled: 07/10/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 05:01

Comments: Q9546641 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00860	U, SL	0.0332
Arsenic	**7440-38-2**	**0.0191**	FB-01	**0.00806**
Barium	7440-39-3	0.806	U	0.920
Beryllium	7440-41-7	0.00143	U	0.00275
Cadmium	7440-43-9	0.00254	U	0.0637
Chromium	7440-47-3	1.66	U	1.90
Cobalt	**7440-48-4**	**0.0403**	FB-01	**0.0375**
Copper	7440-50-8	0.979	U	2.26
Lead	7439-92-1	0.0786	U	0.184
Manganese	7439-96-5	0.658	U	1.63
Molybdenum	7439-98-7	0.269	U	0.309
Nickel	7440-02-0	0.352	U	0.561
Selenium	7782-49-2	0.00270	U, LJ, QX	0.00770
Thallium	7440-28-0	1.22E-4	U	5.06E-4
Vanadium	**7440-62-2**	**0.0670**	FB-01	**0.0455**
Zinc	7440-66-6	8.44	U	66.0

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REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-070424-HM
Matrix: Air
Lab ID: 4071551-33
Sample Volume: 1879.261 m³
Filter ID:
Sampled: 07/04/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 05:11

Comments: Q8507555 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0207	U, SL	0.0334
Arsenic	**7440-38-2**	**0.00838**	FB-01	**0.00811**
Barium	7440-39-3	0.850	U	0.926
Beryllium	7440-41-7	8.26E-4	U	0.00277
Cadmium	7440-43-9	6.54E-4	U	0.0642
Chromium	7440-47-3	0.972	U	1.91
Cobalt	7440-48-4	0.0170	U	0.0377
Copper	7440-50-8	0.544	U	2.28
Lead	7439-92-1	0.0302	U	0.185
Manganese	7439-96-5	0.333	U	1.64
Molybdenum	7439-98-7	0.145	U	0.311
Nickel	7440-02-0	0.489	U	0.564
Selenium	7782-49-2	0.00394	U, LJ, QX	0.00776
Thallium	7440-28-0	1.08E-4	U	5.10E-4
Vanadium	7440-62-2	0.0367	U	0.0458
Zinc	7440-66-6	4.74	U	66.5

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REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-070524-HM
Matrix: Air
Lab ID: 4071551-34
Sample Volume: 1890.643 m³
Filter ID:
Sampled: 07/05/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 05:21

Comments: Q9543355 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0123	U, SL	0.0332
Arsenic	7440-38-2	0.00801	U	0.00806
Barium	7440-39-3	0.475	U	0.921
Beryllium	7440-41-7	0.00128	U	0.00275
Cadmium	7440-43-9	0.00303	U	0.0638
Chromium	7440-47-3	1.30	U	1.90
Cobalt	7440-48-4	0.0272	U	0.0375
Copper	7440-50-8	0.368	U	2.26
Lead	7439-92-1	0.0384	U	0.184
Manganese	7439-96-5	0.300	U	1.63
Molybdenum	7439-98-7	0.179	U	0.309
Nickel	7440-02-0	0.309	U	0.561
Selenium	7782-49-2	0.00191	U, LJ, QX	0.00771
Thallium	7440-28-0	7.80E-5	U	5.07E-4
Vanadium	7440-62-2	0.0301	U	0.0455
Zinc	7440-66-6	4.92	U	66.1

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REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-070624-HM
Matrix: Air
Lab ID: 4071551-35
Sample Volume: 1937.099 m³
Filter ID:
Sampled: 07/06/24 00:00
Received: 07/15/24 16:56
Analysis Date: 07/19/24 05:32

Comments: Q9546671 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00710	U, SL	0.0324
Arsenic	7440-38-2	0.00663	U	0.00787
Barium	7440-39-3	0.568	U	0.899
Beryllium	7440-41-7	0.00102	U	0.00269
Cadmium	7440-43-9	0.00153	U	0.0622
Chromium	7440-47-3	1.52	U	1.86
Cobalt	7440-48-4	0.0258	U	0.0366
Copper	7440-50-8	0.312	U	2.21
Lead	7439-92-1	0.0559	U	0.180
Manganese	7439-96-5	0.202	U	1.59
Molybdenum	7439-98-7	0.237	U	0.302
Nickel	7440-02-0	0.288	U	0.548
Selenium	7782-49-2	0.00168	LJ, QX, U	0.00753
Thallium	7440-28-0	7.26E-5	U	4.95E-4
Vanadium	7440-62-2	0.0223	U	0.0444
Zinc	7440-66-6	4.62	U	64.5

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Blank (2407069-CCB1)				Prepared & Analyzed: 07/18/24						
Antimony	1.06		ng/l							
Arsenic	1.89		ng/l							
Barium	0.150		ng/l							
Beryllium	-0.0595		ng/l							U
Cadmium	0.288		ng/l							
Chromium	-0.184		ng/l							U
Cobalt	-0.114		ng/l							U
Copper	90.4		ng/l							
Lead	31.2		ng/l							
Manganese	12.8		ng/l							
Molybdenum	3.37		ng/l							
Nickel	0.551		ng/l							
Selenium	-1.84		ng/l							LJ, QX, U
Thallium	1.25		ng/l							
Vanadium	-37.3		ng/l							U
Zinc	10.4		ng/l							
Calibration Blank (2407069-CCB2)				Prepared & Analyzed: 07/18/24						
Antimony	0.597		ng/l							
Arsenic	1.76		ng/l							
Barium	-0.135		ng/l							U
Beryllium	0.0447		ng/l							
Cadmium	0.252		ng/l							
Chromium	0.492		ng/l							
Cobalt	-0.0581		ng/l							U
Copper	37.8		ng/l							
Lead	18.4		ng/l							
Manganese	13.8		ng/l							
Molybdenum	1.44		ng/l							
Nickel	0.605		ng/l							
Selenium	-0.987		ng/l							LJ, QX, U
Thallium	1.07		ng/l							
Vanadium	-38.4		ng/l							U
Zinc	8.58		ng/l							
Calibration Blank (2407069-CCB3)				Prepared & Analyzed: 07/18/24						
Antimony	0.529		ng/l							
Arsenic	0.0693		ng/l							
Barium	0.0263		ng/l							
Beryllium	-0.0315		ng/l							U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Blank (2407069-CCB3) Contin				Prepared & Analyzed: 07/18/24						
Cadmium	0.168		ng/l							
Chromium	0.122		ng/l							
Cobalt	-0.157		ng/l							U
Copper	34.9		ng/l							
Lead	17.1		ng/l							
Manganese	13.3		ng/l							
Molybdenum	1.13		ng/l							
Nickel	-0.237		ng/l							U
Selenium	2.69		ng/l							LJ, QX
Thallium	1.10		ng/l							
Vanadium	-42.7		ng/l							U
Zinc	-1.78		ng/l							U
Calibration Blank (2407069-CCB4)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	0.506		ng/l							
Arsenic	-0.0728		ng/l							U
Barium	0.614		ng/l							
Beryllium	-0.0834		ng/l							U
Cadmium	0.148		ng/l							
Chromium	1.45		ng/l							
Cobalt	-0.0364		ng/l							U
Copper	33.2		ng/l							
Lead	13.7		ng/l							
Manganese	13.4		ng/l							
Molybdenum	1.44		ng/l							
Nickel	-0.0254		ng/l							U
Selenium	-1.63		ng/l							LJ, QX, U
Thallium	0.860		ng/l							
Vanadium	-42.6		ng/l							U
Zinc	-2.73		ng/l							U
Calibration Blank (2407069-CCB5)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	0.458		ng/l							
Arsenic	2.16		ng/l							
Barium	0.337		ng/l							
Beryllium	-0.111		ng/l							U
Cadmium	0.0846		ng/l							
Chromium	1.40		ng/l							
Cobalt	-0.180		ng/l							U
Copper	27.1		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Blank (2407069-CCB5) Contin				Prepared: 07/18/24 Analyzed: 07/19/24						
Lead	12.4		ng/l							
Manganese	12.1		ng/l							
Molybdenum	2.40		ng/l							
Nickel	-0.109		ng/l							U
Selenium	-0.413		ng/l							LJ, QX, U
Thallium	1.16		ng/l							
Vanadium	-43.7		ng/l							U
Zinc	1.66		ng/l							
Calibration Blank (2407069-CCB6)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	0.358		ng/l							
Arsenic	0.781		ng/l							
Barium	0.0569		ng/l							
Beryllium	-0.0883		ng/l							U
Cadmium	0.0181		ng/l							
Chromium	0.793		ng/l							
Cobalt	-0.0246		ng/l							U
Copper	30.3		ng/l							
Lead	11.5		ng/l							
Manganese	12.6		ng/l							
Molybdenum	1.98		ng/l							
Nickel	0.445		ng/l							
Selenium	6.12		ng/l							LJ, QX
Thallium	1.02		ng/l							
Vanadium	-40.6		ng/l							U
Zinc	-5.05		ng/l							U
Calibration Blank (2407069-CCB7)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	0.673		ng/l							
Arsenic	2.43		ng/l							
Barium	0.200		ng/l							
Beryllium	-0.0828		ng/l							U
Cadmium	0.123		ng/l							
Chromium	1.16		ng/l							
Cobalt	-0.142		ng/l							U
Copper	25.9		ng/l							
Lead	11.1		ng/l							
Manganese	11.6		ng/l							
Molybdenum	2.33		ng/l							
Nickel	0.356		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Blank (2407069-CCB7) Contin				Prepared: 07/18/24 Analyzed: 07/19/24						
Selenium	-0.154		ng/l							LJ, QX, U
Thallium	1.18		ng/l							
Vanadium	-42.9		ng/l							U
Zinc	3.26		ng/l							
Calibration Check (2407069-CCV1)				Prepared & Analyzed: 07/18/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	196000		ng/l	200000		98.1	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	47000		ng/l	50000		94.0	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2407069-CCV2)				Prepared & Analyzed: 07/18/24						
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	47600		ng/l	50000		95.1	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		101	90-110			LJ, QX
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	516000		ng/l	500000		103	90-110			

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REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Check (2407069-CCV3)				Prepared & Analyzed: 07/18/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	48400		ng/l	50000		96.9	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			LJ, QX
Thallium	485		ng/l	500.00		97.1	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2407069-CCV4)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2407069-CCV5)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Check (2407069-CCV5) Contin				Prepared: 07/18/24 Analyzed: 07/19/24						
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	48200		ng/l	50000		96.3	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			LJ, QX
Thallium	481		ng/l	500.00		96.3	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2407069-CCV6)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	4990		ng/l	5000.0		99.7	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	48900		ng/l	50000		97.8	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			LJ, QX
Thallium	491		ng/l	500.00		98.1	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2407069-CCV7)				Prepared: 07/18/24 Analyzed: 07/19/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4990		ng/l	5000.0		99.9	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Calibration Check (2407069-CCV7) Contin				Prepared: 07/18/24 Analyzed: 07/19/24						
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		98.8	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	519000		ng/l	500000		104	90-110			
High Cal Check (2407069-HCV1)				Prepared & Analyzed: 07/18/24						
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39600		ng/l	40000		99.0	95-105			
Barium	397000		ng/l	400000		99.1	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39600		ng/l	40000		99.1	95-105			
Chromium	466000		ng/l	480000		97.1	95-105			
Cobalt	98200		ng/l	100000		98.2	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	983000		ng/l	1.0000E6		98.3	95-105			
Molybdenum	99700		ng/l	100000		99.7	95-105			
Nickel	234000		ng/l	240000		97.5	95-105			
Selenium	40400		ng/l	40000		101	95-105			LJ, QX
Thallium	1020		ng/l	1000.0		102	95-105			
Vanadium	39500		ng/l	40000		98.7	95-105			
Zinc	991000		ng/l	1.0000E6		99.1	95-105			
Initial Cal Blank (2407069-ICB1)				Prepared & Analyzed: 07/18/24						
Antimony	0.910		ng/l							
Arsenic	0.517		ng/l							
Barium	-0.0387		ng/l							U
Beryllium	0.151		ng/l							
Cadmium	0.00851		ng/l							
Chromium	0.498		ng/l							
Cobalt	-0.197		ng/l							U
Copper	54.6		ng/l							
Lead	21.8		ng/l							
Manganese	12.3		ng/l							
Molybdenum	0.860		ng/l							
Nickel	-0.593		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Initial Cal Blank (2407069-ICB1) Continu				Prepared & Analyzed: 07/18/24						
Selenium	-2.41		ng/l							LJ, QX, U
Thallium	0.512		ng/l							
Vanadium	-9.83		ng/l							U
Zinc	1.97		ng/l							
Initial Cal Check (2407069-ICV1)				Prepared & Analyzed: 07/18/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19200		ng/l	20000		96.1	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	47800		ng/l	50000		95.5	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	46300		ng/l	50000		92.6	90-110			
Nickel	119000		ng/l	120000		98.8	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	500		ng/l	500.00		99.9	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2407069-IFA1)				Prepared & Analyzed: 07/18/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	307000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407069 - B4G1802										
Interference Check B (2407069-IFB1)				Prepared & Analyzed: 07/18/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4810		ng/l	5000.0		96.2	80-120			
Cadmium	19600		ng/l	20000		98.0	80-120			
Chromium	249000		ng/l	240000		104	80-120			
Cobalt	48700		ng/l	50000		97.4	80-120			
Copper	1.90E6		ng/l	2.0000E6		94.9	80-120			
Lead	205000		ng/l	200000		102	80-120			
Manganese	512000		ng/l	500000		102	80-120			
Molybdenum	353000		ng/l	350000		101	80-120			
Nickel	114000		ng/l	120000		94.7	80-120			
Selenium	18800		ng/l	20000		93.8	80-120			LJ, QX
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	21200		ng/l	20000		106	80-120			
Zinc	452000		ng/l	500000		90.4	80-120			
Batch 2407074 - B4G1802										
Calibration Blank (2407074-CCB1)				Prepared & Analyzed: 07/19/24						
Antimony	0.712		ng/l							
Arsenic	-0.837		ng/l							U
Barium	0.153		ng/l							
Beryllium	-0.112		ng/l							U
Cadmium	0.0360		ng/l							
Chromium	-0.00974		ng/l							U
Cobalt	0.0452		ng/l							
Copper	41.2		ng/l							
Lead	17.7		ng/l							
Manganese	0.811		ng/l							
Molybdenum	2.18		ng/l							
Nickel	0.0431		ng/l							
Selenium	7.66		ng/l							
Thallium	0.619		ng/l							
Vanadium	-19.5		ng/l							U
Zinc	8.50		ng/l							
Calibration Blank (2407074-CCB2)				Prepared & Analyzed: 07/19/24						
Antimony	0.592		ng/l							
Arsenic	-0.268		ng/l							U
Barium	0.346		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Calibration Blank (2407074-CCB2) Contin				Prepared & Analyzed: 07/19/24						
Beryllium	-0.111		ng/l							U
Cadmium	0.0903		ng/l							
Chromium	0.186		ng/l							
Cobalt	-0.0385		ng/l							U
Copper	17.6		ng/l							
Lead	9.87		ng/l							
Manganese	-0.280		ng/l							U
Molybdenum	0.956		ng/l							
Nickel	-0.0832		ng/l							U
Selenium	-3.17		ng/l							U
Thallium	0.526		ng/l							
Vanadium	-18.3		ng/l							U
Zinc	5.66		ng/l							
Calibration Blank (2407074-CCB3)				Prepared & Analyzed: 07/19/24						
Antimony	0.951		ng/l							
Arsenic	-0.709		ng/l							U
Barium	0.546		ng/l							
Beryllium	-0.110		ng/l							U
Cadmium	0.214		ng/l							
Chromium	0.894		ng/l							
Cobalt	0.115		ng/l							
Copper	37.2		ng/l							
Lead	14.4		ng/l							
Manganese	1.50		ng/l							
Molybdenum	1.83		ng/l							
Nickel	-0.0138		ng/l							U
Selenium	-7.80		ng/l							U
Thallium	1.15		ng/l							
Vanadium	-39.8		ng/l							U
Zinc	0.255		ng/l							
Calibration Blank (2407074-CCB4)				Prepared & Analyzed: 07/19/24						
Antimony	0.978		ng/l							
Arsenic	-0.785		ng/l							U
Barium	0.252		ng/l							
Beryllium	-0.0373		ng/l							U
Cadmium	0.197		ng/l							
Chromium	1.73		ng/l							
Cobalt	0.0560		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Calibration Blank (2407074-CCB4) Contin				Prepared & Analyzed: 07/19/24						
Copper	35.0		ng/l							
Lead	14.8		ng/l							
Manganese	-0.677		ng/l							U
Molybdenum	1.78		ng/l							
Nickel	-0.421		ng/l							U
Selenium	-4.72		ng/l							U
Thallium	1.25		ng/l							
Vanadium	-38.7		ng/l							U
Zinc	20.4		ng/l							
Calibration Blank (2407074-CCB5)				Prepared & Analyzed: 07/19/24						
Antimony	0.825		ng/l							
Arsenic	0.948		ng/l							
Barium	0.204		ng/l							
Beryllium	-0.0877		ng/l							U
Cadmium	0.328		ng/l							
Chromium	1.17		ng/l							
Cobalt	0.0404		ng/l							
Copper	17.6		ng/l							
Lead	14.4		ng/l							
Manganese	-0.279		ng/l							U
Molybdenum	2.04		ng/l							
Nickel	0.0930		ng/l							
Selenium	1.95		ng/l							
Thallium	1.26		ng/l							
Vanadium	-43.2		ng/l							U
Zinc	2.29		ng/l							
Calibration Check (2407074-CCV1)				Prepared & Analyzed: 07/19/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	19900		ng/l	20000		99.6	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Calibration Check (2407074-CCV1) Contin					Prepared & Analyzed: 07/19/24					
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2407074-CCV2)					Prepared & Analyzed: 07/19/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	47800		ng/l	50000		95.6	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2407074-CCV3)					Prepared & Analyzed: 07/19/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	47200		ng/l	50000		94.4	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Thallium	489		ng/l	500.00		97.9	90-110			
Vanadium	20200		ng/l	20000		101	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Calibration Check (2407074-CCV3) Contin					Prepared & Analyzed: 07/19/24					
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2407074-CCV4)					Prepared & Analyzed: 07/19/24					
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	4990		ng/l	5000.0		99.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	48000		ng/l	50000		96.0	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2407074-CCV5)					Prepared & Analyzed: 07/19/24					
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	48200		ng/l	50000		96.3	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	477		ng/l	500.00		95.5	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2407074-HCV1)					Prepared & Analyzed: 07/19/24					
Antimony	40000		ng/l	40000		100	95-105			
Arsenic	39700		ng/l	40000		99.2	95-105			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
High Cal Check (2407074-HCV1) Continue					Prepared & Analyzed: 07/19/24					
Barium	397000		ng/l	400000		99.2	95-105			
Beryllium	9940		ng/l	10000		99.4	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Chromium	471000		ng/l	480000		98.2	95-105			
Cobalt	98000		ng/l	100000		98.0	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	984000		ng/l	1.0000E6		98.4	95-105			
Molybdenum	99300		ng/l	100000		99.3	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			
Vanadium	39700		ng/l	40000		99.2	95-105			
Zinc	985000		ng/l	1.0000E6		98.5	95-105			
Initial Cal Blank (2407074-ICB1)					Prepared & Analyzed: 07/19/24					
Antimony	1.44		ng/l							
Arsenic	0.851		ng/l							
Barium	0.226		ng/l							
Beryllium	0.0261		ng/l							
Cadmium	0.434		ng/l							
Chromium	0.489		ng/l							
Cobalt	-0.0549		ng/l							U
Copper	28.7		ng/l							
Lead	37.7		ng/l							
Manganese	0.430		ng/l							
Molybdenum	2.31		ng/l							
Nickel	0.204		ng/l							
Selenium	-7.85		ng/l							U
Thallium	1.34		ng/l							
Vanadium	-36.9		ng/l							U
Zinc	13.2		ng/l							
Initial Cal Check (2407074-ICV1)					Prepared & Analyzed: 07/19/24					
Antimony	19600		ng/l	20000		97.8	90-110			
Arsenic	19400		ng/l	20000		96.8	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Initial Cal Check (2407074-ICV1) Continu				Prepared & Analyzed: 07/19/24						
Cobalt	48000		ng/l	50000		96.0	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	46800		ng/l	50000		93.6	90-110			
Nickel	119000		ng/l	120000		98.8	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2407074-IFA1)				Prepared & Analyzed: 07/19/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	308000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2407074-IFB1)				Prepared & Analyzed: 07/19/24						
Antimony	20100		ng/l	20000		101	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4820		ng/l	5000.0		96.3	80-120			
Cadmium	19100		ng/l	20000		95.4	80-120			
Chromium	253000		ng/l	240000		105	80-120			
Cobalt	49400		ng/l	50000		98.7	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.1	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	521000		ng/l	500000		104	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407074 - B4G1802										
Interference Check B (2407074-IFB1) Co					Prepared & Analyzed: 07/19/24					
Molybdenum	349000		ng/l	350000		99.6	80-120			
Nickel	116000		ng/l	120000		96.5	80-120			
Selenium	18600		ng/l	20000		92.9	80-120			
Thallium	520		ng/l	500.00		104	80-120			
Vanadium	21700		ng/l	20000		108	80-120			
Zinc	450000		ng/l	500000		90.0	80-120			
Batch B4G1802 - ICP-MS Extraction										
Blank (B4G1802-BLK1)					Prepared & Analyzed: 07/18/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G1802-BS1)					Prepared & Analyzed: 07/18/24					
Antimony	0.491	0.0386	ng/m³ Air	1.3829		35.5	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.3	80-120			
Barium	27.7	1.07	ng/m³ Air	27.658		100	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.3	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.6	80-120			
Manganese	8.39	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.54	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.05	0.652	ng/m³ Air	2.7658		110	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.5	80-120			LJ, QX

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
LCS (B4G1802-BS1) Continued					Prepared & Analyzed: 07/18/24					
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.3	80-120			
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.3	80-120			
Zinc	91.8	76.8	ng/m³ Air	82.975		111	80-120			
LCS (B4G1802-BS2)					Prepared & Analyzed: 07/18/24					
Antimony	0.513	0.0386	ng/m³ Air	1.3829		37.1	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.8	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.8	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.5	80-120			
Manganese	8.50	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.59	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.15	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			LJ, QX
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.4	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.1	80-120			
Zinc	93.0	76.8	ng/m³ Air	82.975		112	80-120			
Duplicate (B4G1802-DUP1)		**Source: 4071551-16**			Prepared & Analyzed: 07/18/24					
Antimony	0.137	0.0311	ng/m³ Air		0.137			0.642	10	SL
Arsenic	0.516	0.00756	ng/m³ Air		0.516			0.0145	10	
Barium	6.78	0.863	ng/m³ Air		5.90			13.8	10	
Beryllium	0.0203	0.00258	ng/m³ Air		0.0195			3.72	10	
Cadmium	ND	0.0598	ng/m³ Air		0.0624				10	U
Chromium	2.76	1.78	ng/m³ Air		2.55			7.85	10	
Cobalt	0.482	0.0352	ng/m³ Air		0.464			3.89	10	
Copper	45.9	2.12	ng/m³ Air		45.0			1.95	10	
Lead	1.49	0.173	ng/m³ Air		1.45			3.15	10	
Manganese	15.9	1.52	ng/m³ Air		15.2			4.21	10	
Molybdenum	1.83	0.290	ng/m³ Air		1.81			0.891	10	
Nickel	1.54	0.526	ng/m³ Air		1.45			6.11	10	
Selenium	0.191	0.00723	ng/m³ Air		0.196			3.03	10	LJ, QX
Thallium	0.00155	4.75E-4	ng/m³ Air		0.00156			0.905	10	
Vanadium	1.74	0.0427	ng/m³ Air		1.64			6.08	10	
Zinc	ND	61.9	ng/m³ Air		ND				10	U
Duplicate (B4G1802-DUP2)		**Source: 4071551-21**			Prepared & Analyzed: 07/18/24					

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Duplicate (B4G1802-DUP2) Continued			**Source: 4071551-21**		Prepared & Analyzed: 07/18/24					
Antimony	ND	0.0317	ng/m³ Air		ND				10	SL, U
Arsenic	0.220	0.00769	ng/m³ Air		0.207			6.25	10	
Barium	2.63	0.878	ng/m³ Air		2.60			1.43	10	
Beryllium	0.0225	0.00263	ng/m³ Air		0.0229			2.09	10	
Cadmium	ND	0.0608	ng/m³ Air		ND				10	U
Chromium	2.80	1.81	ng/m³ Air		2.89			3.28	10	
Cobalt	0.443	0.0358	ng/m³ Air		0.423			4.60	10	
Copper	41.3	2.16	ng/m³ Air		41.0			0.756	10	
Lead	0.464	0.176	ng/m³ Air		0.621			28.9	10	
Manganese	11.2	1.55	ng/m³ Air		10.8			3.18	10	
Molybdenum	2.09	0.295	ng/m³ Air		2.13			1.66	10	
Nickel	1.20	0.535	ng/m³ Air		1.32			9.39	10	
Selenium	0.126	0.00735	ng/m³ Air		0.119			5.82	10	LJ, QX
Thallium	6.82E-4	4.83E-4	ng/m³ Air		7.95E-4			15.3	10	
Vanadium	1.04	0.0434	ng/m³ Air		1.02			1.97	10	
Zinc	ND	63.0	ng/m³ Air		ND				10	U
Duplicate (B4G1802-DUP3)			**Source: 4071551-06**		Prepared & Analyzed: 07/18/24					
Antimony	0.152	0.0332	ng/m³ Air		0.152			0.286	10	SL
Arsenic	2.16	0.00806	ng/m³ Air		2.17			0.307	10	
Barium	88.0	0.921	ng/m³ Air		87.9			0.127	10	
Beryllium	0.0717	0.00275	ng/m³ Air		0.0706			1.61	10	
Cadmium	ND	0.0638	ng/m³ Air		ND				10	U, LL, QX
Chromium	15.2	1.90	ng/m³ Air		14.9			2.06	10	
Cobalt	2.99	0.0375	ng/m³ Air		2.93			1.73	10	
Copper	240	2.26	ng/m³ Air		236			1.42	10	
Lead	ND	0.184	ng/m³ Air		ND				10	U, LL, QX
Manganese	75.0	1.63	ng/m³ Air		74.1			1.26	10	
Molybdenum	4.36	0.309	ng/m³ Air		4.37			0.176	10	
Nickel	5.83	0.561	ng/m³ Air		5.75			1.41	10	
Selenium	0.356	0.00771	ng/m³ Air		0.342			3.87	10	LJ, QX
Thallium	ND	5.07E-4	ng/m³ Air		ND				10	U, LL, QX
Vanadium	8.71	0.0455	ng/m³ Air		8.55			1.84	10	
Zinc	ND	66.1	ng/m³ Air		ND				10	U
Duplicate (B4G1802-DUP4)			**Source: 4071551-31**		Prepared: 07/18/24 Analyzed: 07/19/24					
Antimony	0.106	0.0348	ng/m³ Air		0.105			0.631	10	SL
Arsenic	1.20	0.00844	ng/m³ Air		1.17			2.36	10	
Barium	10.6	0.963	ng/m³ Air		10.6			0.854	10	
Beryllium	0.0594	0.00288	ng/m³ Air		0.0606			1.96	10	

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Duplicate (B4G1802-DUP4) Continued			**Source: 4071551-31**		Prepared: 07/18/24 Analyzed: 07/19/24					
Cadmium	ND	0.0667	ng/m³ Air		ND				10	U, LL, QX
Chromium	7.80	1.99	ng/m³ Air		7.59			2.79	10	
Cobalt	1.75	0.0393	ng/m³ Air		1.73			1.60	10	
Copper	37.0	2.37	ng/m³ Air		36.5			1.37	10	
Lead	2.42	0.193	ng/m³ Air		2.44			0.487	10	
Manganese	63.1	1.70	ng/m³ Air		61.8			2.17	10	
Molybdenum	1.10	0.323	ng/m³ Air		1.10			0.413	10	
Nickel	4.89	0.587	ng/m³ Air		4.80			1.90	10	
Selenium	0.320	0.00807	ng/m³ Air		0.297			7.63	10	LJ, QX
Thallium	0.00253	5.30E-4	ng/m³ Air		0.00250			1.34	10	
Vanadium	4.26	0.0476	ng/m³ Air		4.16			2.36	10	
Zinc	ND	69.1	ng/m³ Air		ND				10	U
Duplicate (B4G1802-DUP5)			**Source: 4071551-06R**		Prepared: 07/18/24 Analyzed: 07/19/24					
Antimony	0.156	0.0664	ng/m³ Air		0.155			0.582	10	D
Arsenic	2.27	0.0161	ng/m³ Air		2.26			0.278	10	D
Barium	95.7	1.84	ng/m³ Air		94.9			0.865	10	D
Beryllium	0.0723	0.00551	ng/m³ Air		0.0701			3.09	10	D
Cadmium	ND	0.128	ng/m³ Air		ND				10	U, D
Chromium	15.8	3.80	ng/m³ Air		15.7			0.242	10	D
Cobalt	3.10	0.0750	ng/m³ Air		3.10			0.186	10	D
Copper	251	4.53	ng/m³ Air		248			1.18	10	D
Lead	ND	0.368	ng/m³ Air		ND				10	U, D
Manganese	78.3	3.25	ng/m³ Air		78.1			0.339	10	D
Molybdenum	5.21	0.618	ng/m³ Air		5.15			1.31	10	D
Nickel	6.11	1.12	ng/m³ Air		6.11			0.0109	10	D
Selenium	0.396	0.0154	ng/m³ Air		0.384			2.99	10	D
Thallium	ND	0.00101	ng/m³ Air		ND				10	U, D
Vanadium	8.95	0.0910	ng/m³ Air		8.97			0.186	10	D
Zinc	ND	132	ng/m³ Air		ND				10	U, D
Duplicate (B4G1802-DUP6)			**Source: 4071551-31R**		Prepared: 07/18/24 Analyzed: 07/19/24					
Antimony	0.106	0.0695	ng/m³ Air		0.108			1.42	10	D
Arsenic	1.21	0.0169	ng/m³ Air		1.21			0.619	10	D
Barium	11.1	1.93	ng/m³ Air		11.0			0.507	10	D
Beryllium	0.0591	0.00576	ng/m³ Air		0.0612			3.42	10	D
Cadmium	ND	0.133	ng/m³ Air		ND				10	U, D
Chromium	7.62	3.98	ng/m³ Air		7.62			0.0178	10	D
Cobalt	1.72	0.0785	ng/m³ Air		1.73			0.722	10	D
Copper	36.5	4.74	ng/m³ Air		36.9			1.01	10	D

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/24/24 14:27
SUBMITTED: 07/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Duplicate (B4G1802-DUP6) Continued		**Source: 4071551-31R**		Prepared: 07/18/24 Analyzed: 07/19/24						
Lead	2.41	0.385	ng/m³ Air		2.42			0.657	10	D
Manganese	61.8	3.40	ng/m³ Air		62.3			0.679	10	D
Molybdenum	1.22	0.646	ng/m³ Air		1.24			1.00	10	D
Nickel	4.86	1.17	ng/m³ Air		4.90			0.649	10	D
Selenium	0.336	0.0161	ng/m³ Air		0.334			0.429	10	D
Thallium	0.00240	0.00106	ng/m³ Air		0.00244			1.87	10	D
Vanadium	4.18	0.0953	ng/m³ Air		4.13			1.15	10	D
Zinc	ND	138	ng/m³ Air		ND				10	U, D
Matrix Spike (B4G1802-MS1)		**Source: 4071551-16**		Prepared & Analyzed: 07/18/24						
Antimony	0.722	0.0311	ng/m³ Air	1.1153	0.137	52.5	80-120			SL
Arsenic	2.59	0.00756	ng/m³ Air	2.2306	0.516	93.0	80-120			
Barium	27.2	0.863	ng/m³ Air	22.306	5.90	95.4	80-120			
Beryllium	1.11	0.00258	ng/m³ Air	1.1153	0.0195	97.6	80-120			
Cadmium	1.11	0.0598	ng/m³ Air	1.1153	0.0624	93.6	80-120			
Chromium	13.8	1.78	ng/m³ Air	11.153	2.55	101	80-120			
Cobalt	1.57	0.0352	ng/m³ Air	1.1153	0.464	98.9	80-120			
Copper	70.4	2.12	ng/m³ Air	22.306	45.0	114	80-120			
Lead	12.2	0.173	ng/m³ Air	11.153	1.45	96.7	80-120			
Manganese	21.9	1.52	ng/m³ Air	6.6919	15.2	99.9	80-120			
Molybdenum	2.86	0.290	ng/m³ Air	1.1153	1.81	93.8	80-120			
Nickel	3.69	0.526	ng/m³ Air	2.2306	1.45	101	80-120			
Selenium	2.29	0.00723	ng/m³ Air	2.2306	0.196	93.7	80-120			LJ, QX
Thallium	0.108	4.75E-4	ng/m³ Air	0.11153	0.00156	95.8	80-120			
Vanadium	3.86	0.0427	ng/m³ Air	2.2306	1.64	99.6	80-120			
Zinc	88.9	61.9	ng/m³ Air	66.919	ND	133	80-120			
Matrix Spike (B4G1802-MS2)		**Source: 4071551-21**		Prepared & Analyzed: 07/18/24						
Antimony	0.485	0.0317	ng/m³ Air	1.1349	ND	42.8	80-120			SL
Arsenic	2.32	0.00769	ng/m³ Air	2.2697	0.207	93.3	80-120			
Barium	24.2	0.878	ng/m³ Air	22.697	2.60	95.3	80-120			
Beryllium	1.13	0.00263	ng/m³ Air	1.1349	0.0229	97.5	80-120			
Cadmium	1.13	0.0608	ng/m³ Air	1.1349	ND	99.9	80-120			
Chromium	13.8	1.81	ng/m³ Air	11.349	2.89	96.1	80-120			
Cobalt	1.53	0.0358	ng/m³ Air	1.1349	0.423	97.8	80-120			
Copper	64.3	2.16	ng/m³ Air	22.697	41.0	103	80-120			
Lead	11.7	0.176	ng/m³ Air	11.349	0.621	97.4	80-120			
Manganese	17.3	1.55	ng/m³ Air	6.8091	10.8	95.3	80-120			
Molybdenum	3.05	0.295	ng/m³ Air	1.1349	2.13	80.9	80-120			
Nickel	3.47	0.535	ng/m³ Air	2.2697	1.32	94.8	80-120			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Matrix Spike (B4G1802-MS2) Continued Source: 4071551-21 Prepared & Analyzed: 07/18/24										
Selenium	2.29	0.00735	ng/m³ Air	2.2697	0.119	95.6	80-120			LJ, QX
Thallium	0.110	4.83E-4	ng/m³ Air	0.11349	7.95E-4	96.1	80-120			
Vanadium	3.22	0.0434	ng/m³ Air	2.2697	1.02	97.1	80-120			
Zinc	83.5	63.0	ng/m³ Air	68.091	ND	123	80-120			
Matrix Spike Dup (B4G1802-MSD1) Source: 4071551-16 Prepared & Analyzed: 07/18/24										
Antimony	0.681	0.0311	ng/m³ Air	1.1153	0.137	48.9	80-120	5.77	20	SL
Arsenic	2.56	0.00756	ng/m³ Air	2.2306	0.516	91.8	80-120	1.03	20	
Barium	27.0	0.863	ng/m³ Air	22.306	5.90	94.5	80-120	0.699	20	
Beryllium	1.11	0.00258	ng/m³ Air	1.1153	0.0195	97.9	80-120	0.239	20	
Cadmium	1.10	0.0598	ng/m³ Air	1.1153	0.0624	93.0	80-120	0.588	20	
Chromium	13.7	1.78	ng/m³ Air	11.153	2.55	100	80-120	0.928	20	
Cobalt	1.55	0.0352	ng/m³ Air	1.1153	0.464	97.5	80-120	1.00	20	
Copper	70.5	2.12	ng/m³ Air	22.306	45.0	114	80-120	0.113	20	
Lead	12.2	0.173	ng/m³ Air	11.153	1.45	96.1	80-120	0.586	20	
Manganese	21.4	1.52	ng/m³ Air	6.6919	15.2	92.6	80-120	2.28	20	
Molybdenum	2.85	0.290	ng/m³ Air	1.1153	1.81	92.9	80-120	0.343	20	
Nickel	3.66	0.526	ng/m³ Air	2.2306	1.45	99.1	80-120	0.950	20	
Selenium	2.29	0.00723	ng/m³ Air	2.2306	0.196	93.9	80-120	0.140	20	LJ, QX
Thallium	0.106	4.75E-4	ng/m³ Air	0.11153	0.00156	93.8	80-120	2.01	20	
Vanadium	3.79	0.0427	ng/m³ Air	2.2306	1.64	96.6	80-120	1.73	20	
Zinc	84.2	61.9	ng/m³ Air	66.919	ND	126	80-120	5.39	20	
Matrix Spike Dup (B4G1802-MSD2) Source: 4071551-21 Prepared & Analyzed: 07/18/24										
Antimony	0.488	0.0317	ng/m³ Air	1.1349	ND	43.0	80-120	0.520	20	SL
Arsenic	2.33	0.00769	ng/m³ Air	2.2697	0.207	93.7	80-120	0.401	20	
Barium	24.5	0.878	ng/m³ Air	22.697	2.60	96.5	80-120	1.07	20	
Beryllium	1.13	0.00263	ng/m³ Air	1.1349	0.0229	97.6	80-120	0.0671	20	
Cadmium	1.14	0.0608	ng/m³ Air	1.1349	ND	100	80-120	0.326	20	
Chromium	13.9	1.81	ng/m³ Air	11.349	2.89	97.4	80-120	1.02	20	
Cobalt	1.55	0.0358	ng/m³ Air	1.1349	0.423	99.4	80-120	1.16	20	
Copper	63.7	2.16	ng/m³ Air	22.697	41.0	100	80-120	0.986	20	
Lead	11.7	0.176	ng/m³ Air	11.349	0.621	98.0	80-120	0.631	20	
Manganese	17.6	1.55	ng/m³ Air	6.8091	10.8	100	80-120	1.88	20	
Molybdenum	3.05	0.295	ng/m³ Air	1.1349	2.13	81.7	80-120	0.283	20	
Nickel	3.46	0.535	ng/m³ Air	2.2697	1.32	94.3	80-120	0.295	20	
Selenium	2.28	0.00735	ng/m³ Air	2.2697	0.119	95.2	80-120	0.351	20	LJ, QX
Thallium	0.112	4.83E-4	ng/m³ Air	0.11349	7.95E-4	97.7	80-120	1.68	20	
Vanadium	3.23	0.0434	ng/m³ Air	2.2697	1.02	97.4	80-120	0.221	20	
Zinc	82.3	63.0	ng/m³ Air	68.091	ND	121	80-120	1.38	20	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Post Spike (B4G1802-PS1)		**Source: 4071551-16**		Prepared & Analyzed: 07/18/24						
Antimony	0.358	0.0311	ng/m³ Air	0.22306	0.137	99.3	75-125			SL
Arsenic	1.55	0.00756	ng/m³ Air	1.1153	0.516	93.2	75-125			
Barium	8.00	0.863	ng/m³ Air	2.2306	5.90	94.0	75-125			
Beryllium	0.240	0.00258	ng/m³ Air	0.22306	0.0195	99.0	75-125			
Cadmium	0.170	0.0598	ng/m³ Air	0.11153	0.0624	96.3	75-125			
Chromium	3.71	1.78	ng/m³ Air	1.1153	2.55	105	75-125			
Cobalt	0.682	0.0352	ng/m³ Air	0.22306	0.464	97.8	75-125			
Copper	57.3	2.12	ng/m³ Air	11.153	45.0	110	75-125			
Lead	23.3	0.173	ng/m³ Air	22.306	1.45	97.9	75-125			
Manganese	17.7	1.52	ng/m³ Air	2.2306	15.2	111	75-125			
Molybdenum	2.79	0.290	ng/m³ Air	1.1153	1.81	87.7	75-125			
Nickel	3.71	0.526	ng/m³ Air	2.2306	1.45	101	75-125			
Selenium	1.22	0.00723	ng/m³ Air	1.1153	0.196	91.8	75-125			LJ, QX
Thallium	0.0545	4.75E-4	ng/m³ Air	5.5765E-2	0.00156	94.9	75-125			
Vanadium	2.76	0.0427	ng/m³ Air	1.1153	1.64	101	75-125			
Zinc	ND	61.9	ng/m³ Air	22.306	ND		75-125			U
Post Spike (B4G1802-PS2)		**Source: 4071551-21**		Prepared & Analyzed: 07/18/24						
Antimony	0.260	0.0317	ng/m³ Air	0.22697	ND	115	75-125			SL
Arsenic	1.27	0.00769	ng/m³ Air	1.1349	0.207	93.6	75-125			
Barium	4.74	0.878	ng/m³ Air	2.2697	2.60	94.3	75-125			
Beryllium	0.246	0.00263	ng/m³ Air	0.22697	0.0229	98.3	75-125			
Cadmium	0.124	0.0608	ng/m³ Air	0.11349	ND	109	75-125			
Chromium	4.04	1.81	ng/m³ Air	1.1349	2.89	101	75-125			
Cobalt	0.643	0.0358	ng/m³ Air	0.22697	0.423	96.9	75-125			
Copper	52.9	2.16	ng/m³ Air	11.349	41.0	105	75-125			
Lead	23.3	0.176	ng/m³ Air	22.697	0.621	99.7	75-125			
Manganese	13.1	1.55	ng/m³ Air	2.2697	10.8	101	75-125			
Molybdenum	3.06	0.295	ng/m³ Air	1.1349	2.13	82.0	75-125			
Nickel	3.61	0.535	ng/m³ Air	2.2697	1.32	101	75-125			
Selenium	1.19	0.00735	ng/m³ Air	1.1349	0.119	94.6	75-125			LJ, QX
Thallium	0.0582	4.83E-4	ng/m³ Air	5.6743E-2	7.95E-4	101	75-125			
Vanadium	2.13	0.0434	ng/m³ Air	1.1349	1.02	98.1	75-125			
Zinc	ND	63.0	ng/m³ Air	22.697	ND		75-125			U
Dilution Check (B4G1802-SRL1)		**Source: 4071551-16**		Prepared & Analyzed: 07/18/24						
Antimony	ND	0.156	ng/m³ Air		ND				10	U, SL
Arsenic	0.535	0.0378	ng/m³ Air		0.516			3.61	10	
Barium	6.11	4.31	ng/m³ Air		5.90			3.49	10	
Beryllium	0.0193	0.0129	ng/m³ Air		0.0195			1.11	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G1802 - ICP-MS Extraction										
Dilution Check (B4G1802-SRL1) ContinueSource: 4071551-16 Prepared & Analyzed: 07/18/24										
Cadmium	ND	0.299	ng/m³ Air		ND				10	U
Chromium	ND	8.91	ng/m³ Air		ND				10	U
Cobalt	0.484	0.176	ng/m³ Air		0.464			4.20	10	
Copper	47.6	10.6	ng/m³ Air		45.0			5.56	10	
Lead	1.46	0.863	ng/m³ Air		1.45			1.07	10	
Manganese	15.8	7.62	ng/m³ Air		15.2			3.67	10	
Molybdenum	1.95	1.45	ng/m³ Air		1.81			7.43	10	
Nickel	ND	2.63	ng/m³ Air		ND				10	U
Selenium	0.196	0.0361	ng/m³ Air		0.196			0.0356	10	LJ, QX
Thallium	ND	0.00238	ng/m³ Air		ND				10	U
Vanadium	1.67	0.213	ng/m³ Air		1.64			1.94	10	
Zinc	ND	310	ng/m³ Air		ND				10	U
Dilution Check (B4G1802-SRL2) Source: 4071551-21 Prepared & Analyzed: 07/18/24										
Antimony	ND	0.158	ng/m³ Air		ND				10	SL, U
Arsenic	0.211	0.0384	ng/m³ Air		0.207			1.97	10	
Barium	ND	4.39	ng/m³ Air		ND				10	U
Beryllium	0.0213	0.0131	ng/m³ Air		0.0229			7.43	10	
Cadmium	ND	0.304	ng/m³ Air		ND				10	U
Chromium	ND	9.07	ng/m³ Air		ND				10	U
Cobalt	0.439	0.179	ng/m³ Air		0.423			3.60	10	
Copper	42.1	10.8	ng/m³ Air		41.0			2.75	10	
Lead	ND	0.878	ng/m³ Air		ND				10	U
Manganese	11.1	7.75	ng/m³ Air		10.8			2.14	10	
Molybdenum	2.19	1.47	ng/m³ Air		2.13			3.03	10	
Nickel	ND	2.68	ng/m³ Air		ND				10	U
Selenium	0.128	0.0368	ng/m³ Air		0.119			7.26	10	LJ, QX
Thallium	ND	0.00242	ng/m³ Air		ND				10	U
Vanadium	1.01	0.217	ng/m³ Air		1.02			0.650	10	
Zinc	ND	315	ng/m³ Air		ND				10	U

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REPORTED: 07/24/24 14:27
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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
LL	Analyte identified; Reported value may be biased low.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/24/2024 and Shanna Vasser 7/24/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 07/04/2024 – 07/10/2024
Report No: 4071551

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, cobalt, and vanadium in MFL-FB01-071024-HM and for arsenic in MFL-LB01-070424-HM.

Notes:

7. MFL-AM01-070524-HM was analyzed at a two-fold dilution for antimony, arsenic, barium, molybdenum, and selenium. MFL-AM01-071024-HM was analyzed at a two-fold dilution for arsenic, lead, molybdenum, selenium, and thallium. MFL-AM02-071024-HM was analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, selenium, and vanadium. MFL-AM04-071024-HM was analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, and selenium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

July 11 through July 17, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from July 11 through July 17, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was conducted at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} occurred 24 hours a day, 7 days a week from July 11 through 17 at each community location. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3).

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

Daily air sampling at all four community locations accorded with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µg/m^3 screening level, as shown in **Table 1**.

Air Sampling Results

Collection of 28 samples to be analyzed for asbestos fibers occurred at each monitoring location throughout this reporting period. The sample collected at Lahaina Intermediate School on July 16 was voided due to pump fault error which prevented collecting a post-sampling calibration reading. All

analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's analytical sensitivity. **Table 2** lists results. Notably, the laboratory commented "Numerous gypsum fibers present" regarding samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on July 11, 12, and 16
- WW Pump Station #4 on July 11 and July 13-16
- Lahaina Intermediate School on July 13-15
- Lahaina Boys & Girls Club on July 11, and 14-16

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analysis; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3, respectively, for total dust as time-weighted averages (National Institute for Occupational Safety and Health [NIOSH] and Occupational Safety and Health Administration [OSHA]). While total dust sampling has not occurred, results of size-discriminated particulate sampling (PM_{10}) at these locations do not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

All ambient air samples from all community sampling locations yielded low levels of metals, all below SSALs.

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour originating from a generally southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA Environmental Response Team (ERT) SOPs 2008, "General Air Monitoring and Sampling Guidelines," and 2015 "Asbestos Air Sampling," included in the CAMSP.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook."

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
7/11/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	11
7/12/2024	Leialii Hawaiian Homelands (AM-01)	13*
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	13**
7/13/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	10*
7/14/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	14
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	13
7/15/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.4
7/16/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.9
7/17/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	9.7

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided as a 23-hour TWA due to an error
** Data provided as a 22-hour TWA due to an error

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
7/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000200	0.00920	0.0195	0.0000766	0.000102	0.0141	0.00311	0.0740	0.000910	0.0762	0.00307	0.00585	0.000443	0.00000376	0.00843	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000989	0.00118	0.0191	0.0000929	0.000835	0.0152	0.00388	0.0395	0.00318	0.0920	0.00140	0.0106	0.000457	0.00000435	0.0112	ND
	Lahaina Intermediate School (AM-03)	<0.0027	ND	0.000283	0.00468	0.0000655	ND	0.00522	0.00103	0.0584	0.000534	0.0221	0.00273	0.00258	0.000276	0.00000208	0.00252	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000832	0.000825	0.00731	0.0000407	ND	0.00648	0.00133	0.0233	0.00212	0.0398	0.00107	0.00359	0.000266	0.00000231	0.00291	ND
7/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000581	0.00116	0.00816	0.0000245	ND	0.00507	0.000998	0.178	0.000496	0.0253	0.00879	0.00250	0.000180	0.00000145	0.00291	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000657	0.000394	0.00398	0.0000113	ND	0.00263	0.000372	0.0353	0.00108	0.0121	0.00177	0.00122	0.000169	0.000000953	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000323	0.000183	0.00268	0.0000221	ND	0.00275	0.000433	0.0601	0.000510	0.0105	0.00295	0.00117	0.000158	0.000000869	0.00109	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000762	0.000638	0.00416	0.0000136	ND	0.00300	0.000592	0.0305	0.000951	0.0191	0.00156	0.00132	0.000185	0.000000986	0.00125	ND
7/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000371	0.000514	0.00485	0.0000178	ND	0.00443	0.000827	0.193	0.000382	0.0202	0.00868	0.00230	0.000202	0.00000153	0.00243	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000726	0.000379	0.00417	0.0000145	ND	0.00272	0.000414	0.0417	0.00125	0.0136	0.00186	0.00124	0.000223	0.00000138	0.00137	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000178	0.00311	0.0000322	ND	0.00311	0.000489	0.0525	0.000573	0.0123	0.00229	0.00132	0.000191	0.00000129	0.00125	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000693	0.000531	0.00397	0.0000136	ND	0.00298	0.000427	0.0253	0.000795	0.0188	0.00140	0.00121	0.000188	0.00000139	0.00119	ND
7/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000795	0.000426	0.00352	0.00000915	ND	0.00239	0.000331	0.231	0.000401	0.0104	0.0114	0.000930	0.000283	0.00000181	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000109	0.000290	0.00418	0.0000113	ND	0.00230	0.000318	0.0691	0.000895	0.0105	0.00293	0.00108	0.000323	0.00000187	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000454	0.000193	0.00303	0.0000277	ND	0.00261	0.000422	0.0535	0.000494	0.0114	0.00245	0.00115	0.000255	0.00000176	0.00115	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000783	0.000347	0.00361	0.0000141	ND	0.00262	0.000389	0.0283	0.000731	0.0154	0.00142	0.00116	0.000279	0.00000184	0.00114	ND
7/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000735	0.00111	0.00477	0.0000146	ND	0.00371	0.000629	0.256	0.000398	0.0167	0.00995	0.00161	0.000229	0.00000136	0.00184	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000448	0.00583	0.0000215	ND	0.00345	0.000684	0.0546	0.00113	0.0201	0.00192	0.00202	0.000276	0.00000173	0.00215	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000468	0.000252	0.00394	0.0000483	ND	0.00323	0.000624	0.0644	0.000593	0.0152	0.00254	0.00169	0.000244	0.00000158	0.00134	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000845	0.000463	0.00454	0.0000174	ND	0.00341	0.000593	0.0353	0.000880	0.0237	0.00162	0.00155	0.000245	0.00000152	0.00158	ND
7/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000422	0.000969	0.00603	0.0000253	ND	0.00483	0.000944	0.208	0.000605	0.0265	0.00795	0.00241	0.000224	0.00000199	0.00266	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000163	0.000515	0.00682	0.0000224	ND	0.00326	0.000672	0.0632	0.00169	0.0218	0.00182	0.00180	0.000230	0.00000195	0.00200	ND
	Lahaina Intermediate School (AM-03)		0.0000463	0.000355	0.00496	0.0000855	ND	0.00513	0.00109	0.0373	0.000461	0.0253	0.00188	0.00271	0.000244	0.00000205	0.00229	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000778	0.000447	0.00411	0.0000169	ND	0.00295	0.000522	0.0267	0.000852	0.0183	0.00155	0.00140	0.000202	0.00000165	0.00137	ND
7/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000112	0.00289	0.0114	0.0000477	ND	0.00874	0.00190	0.161	0.000849	0.0492	0.00591	0.00422	0.000276	0.00000263	0.00540	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000144	0.000746	0.00711	0.0000259	ND	0.00413	0.000898	0.0604	0.00182	0.0257	0.00184	0.00241	0.000240	0.00000202	0.00251	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000528	0.000257	0.00422	0.0000571	ND	0.00394	0.000748	0.0439	0.000494	0.0172	0.00213	0.00181	0.000189	0.00000151	0.00161	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000956	0.000418	0.00448	0.0000165	ND	0.00324	0.000526	0.0269	0.000959	0.0197	0.00149	0.00148	0.000181	0.00000174	0.00135	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.00110	0.00702	0.0000410	NA	0.00531	0.00110	0.105	0.00112	0.0295	0.00439	0.00274	0.000270	0.00000210	0.00294	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Asbestos sample voided due to pump error and no post-sampling calibration reading

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
7/11/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	82	59	759.4
7/11/2024	AM-02	WW Pump Station #4	1.7	SE	82	63	761.2
7/11/2024	AM-03	Lahaina Intermediate School	1.7	SE	80	61	752.0
7/11/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	80	63	760.9
7/12/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	86	59	760.9
7/12/2024	AM-02	WW Pump Station #4	1.2	SSE	83	68	763.0
7/12/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	65	753.7
7/12/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	79	68	762.1
7/13/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	87	57	761.1
7/13/2024	AM-02	WW Pump Station #4	1.1	SSE	84	65	763.3
7/13/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	62	753.9
7/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	80	64	762.8
7/14/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	85	58	761.9
7/14/2024	AM-02	WW Pump Station #4	1.0	SSE	83	64	764.1
7/14/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	62	754.6
7/14/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	64	763.7
7/15/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	86	57	761.2
7/15/2024	AM-02	WW Pump Station #4	1.0	SSE	83	64	763.4
7/15/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	61	753.9
7/15/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	64	762.9
7/16/2024	AM-01	Leialii Hawaiian Homelands	1.5	ESE	85	51	760.9
7/16/2024	AM-02	WW Pump Station #4	1.3	SE	83	58	763.0
7/16/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	55	753.6
7/16/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	59	762.6
7/17/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	85	50	760.9
7/17/2024	AM-02	WW Pump Station #4	1.2	SSE	83	56	763.1
7/17/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	54	753.6
7/17/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	56	762.7

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in-depth discussion can be found in the attached weekly report.

**Please note sample data that does not fall within this reporting period have been removed or redacted

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071124-AB**		**Sample Description:**	**DK864908**
EMSL Sample Number:	042414833-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0001 **Customer Sample:** MFL-AM01-071124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A7	I6	None Detected									
A7	E7	None Detected									
A7	B3	None Detected									
A8	D6	None Detected									
A8	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071124-AB**		**Sample Description:**	**DK864985**
EMSL Sample Number:	042414833-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7281.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0002 **Customer Sample:** MFL-AM02-071124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A3	None Detected									
B2	F8	None Detected									
B2	I6	None Detected									
B3	G7	None Detected									
B3	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071124-AB**		**Sample Description:**	**DK864874**
EMSL Sample Number:	042414833-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6911.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0003 **Customer Sample:** MFL-AM03-071124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I9	None Detected									
B5	F4	None Detected									
B5	A5	None Detected									
B6	D3	None Detected									
B6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071124-AB**		**Sample Description:**	**DK864876**
EMSL Sample Number:	042414833-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7071.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0004 **Customer Sample:** MFL-AM04-071124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I3	None Detected									
C1	E5	None Detected									
C1	B6	None Detected									
C2	C4	None Detected									
C2	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071124-AB** **Sample Description:** **DK864881**

EMSL Sample Number:	042414833-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0005 **Customer Sample:** MFL-FB01-071124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J4	None Detected									
C5	H8	None Detected									
C5	D10	None Detected									
C5	A6	None Detected									
C6	B3	None Detected									
C6	D7	None Detected									
C6	I5	None Detected									
C7	E1	None Detected									
C7	E5	None Detected									
C7	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071224-AB** **Sample Description:** **DK797356**

EMSL Sample Number:	042414833-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0006 **Customer Sample:** MFL-AM01-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J8	None Detected									
D1	G5	None Detected									
D1	A4	None Detected									
D2	C8	None Detected									
D2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	07/23/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071224-AB** **Sample Description: DK864916**

EMSL Sample Number:	042414833-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7169.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0007 **Customer Sample:** MFL-AM02-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I7	None Detected									
D5	E2	None Detected									
D5	B4	None Detected									
D6	H9	None Detected									
D6	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-071224-AB** **Sample Description:** **DK864857**

EMSL Sample Number:	042414833-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7051.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0008 **Customer Sample:** MFL-AM03-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I8	None Detected									
E2	E4	None Detected									
E2	B6	None Detected									
E3	H7	None Detected									
E3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-071224-AB** **Sample Description:** **DK864884**

EMSL Sample Number:	042414833-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7070.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0009 **Customer Sample:** MFL-AM04-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H9	None Detected									
E5	F4	None Detected									
E5	B6	None Detected									
E6	C4	None Detected									
E6	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071224-AB** **Sample Description:** **DK864893**

EMSL Sample Number:	042414833-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0010 **Customer Sample:** MFL-FB01-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	B3	None Detected									
F2	D7	None Detected									
F2	G5	None Detected									
F2	I8	None Detected									
F3	A6	None Detected									
F3	E9	None Detected									
F3	H4	None Detected									
F4	J8	None Detected									
F4	G10	None Detected									
F4	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071324-AB** **Sample Description:** **DK864862**

EMSL Sample Number:	042414833-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7120.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0011 **Customer Sample:** MFL-AM01-071324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	H5	None Detected									
F5	E8	None Detected									
F5	B6	None Detected									
F6	G3	None Detected									
F6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071324-AB**		**Sample Description:**	**DK864896**
EMSL Sample Number:	042414833-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7127.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0012 **Customer Sample:** MFL-AM02-071324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J3	None Detected									
G1	F6	None Detected									
G1	B4	None Detected									
G2	H4	None Detected									
G2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071324-AB**		**Sample Description:**	**DK864914**
EMSL Sample Number:	042414833-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7021.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0013 **Customer Sample:** MFL-AM03-071324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I8	None Detected									
G5	E5	None Detected									
G5	B7	None Detected									
G6	H6	None Detected									
G6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071324-AB**		**Sample Description:**	**DK864990**
EMSL Sample Number:	042414833-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7288.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0014 **Customer Sample:** MFL-AM04-071324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A7	None Detected									
H1	D5	None Detected									
H1	I3	None Detected									
H2	C8	None Detected									
H2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071324-AB** **Sample Description:** **DK864980**

EMSL Sample Number:	042414833-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0015 **Customer Sample:** MFL-FB01-071324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B9	None Detected									
H5	C6	None Detected									
H5	F4	None Detected									
H5	I7	None Detected									
H6	J7	None Detected									
H6	E3	None Detected									
H6	B6	None Detected									
H7	A2	None Detected									
H7	D5	None Detected									
H7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071424-AB**		**Sample Description:**	**DK864906**
EMSL Sample Number:	042414833-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7299.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0016 **Customer Sample:** MFL-AM01-071424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A5	None Detected									
I1	D8	None Detected									
I1	H3	None Detected									
I2	I6	None Detected									
I2	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071424-AB**		**Sample Description:**	**DK864863**
EMSL Sample Number:	042414833-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7407.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0017 **Customer Sample:** MFL-AM02-071424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	H4	None Detected									
I5	G7	None Detected									
I5	A3	None Detected									
I6	C8	None Detected									
I6	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071424-AB**		**Sample Description:**	**DK864849**
EMSL Sample Number:	042414833-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0018 **Customer Sample:** MFL-AM03-071424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J6	None Detected									
J1	F9	None Detected									
J1	B5	None Detected									
J2	H3	None Detected									
J2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071424-AB**		**Sample Description:**	**DK864872**
EMSL Sample Number:	042414833-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7022.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0019 **Customer Sample:** MFL-AM04-071424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H4	None Detected									
J5	E7	None Detected									
J5	B4	None Detected									
J6	B8	None Detected									
J6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071424-AB** **Sample Description:** **DK864871**

EMSL Sample Number:	042414833-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0020 **Customer Sample:** MFL-FB01-071424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	B6	None Detected									
K1	D3	None Detected									
K1	G6	None Detected									
K1	J7	None Detected									
K2	I3	None Detected									
K2	I8	None Detected									
K2	C5	None Detected									
K3	H5	None Detected									
K3	F9	None Detected									
K3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042414833-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042414833
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J2	None Detected									
A1	H5	None Detected									
A1	E8	None Detected									
A1	A6	None Detected									
A2	B4	None Detected									
A2	F7	None Detected									
A2	I4	None Detected									
A3	H8	None Detected									
A3	G5	None Detected									
A3	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042414833

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042414833

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, N.J. 2024 JUL 17 A 11:38

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TetraTech	Company Name:	
Contact Name:	Chelsea Sabar	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.sabar@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Mavi Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. Kanyon Soldate	Sampled By Signature:	
No. of Samples in Shipment	20		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-07124-AB (EMS)	DK864908	7,152.612	07/11/24 1100
MFL-AM02-07124-AB	DK864985	7,281.812	07/11/24 1121
MFL-AM03-07124-AB	DK864874	6,911.244	07/11/24 1302
MFL-AM04-07124-AB	DK864876	7,071.913	07/11/24 1320
MFL-FB01-07124-AB	DK864881 (EMS)	0	07/11/24 1200
MFL-AM01-071224-AB	DK797356	7,161.759	07/12/24 1105
MFL-AM02-071224-AB	DK864916	7,169.293	07/12/24 1123
MFL-AM03-071224-AB	DK864857	7,051.396	07/12/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 07/15/24 1100	Received by: FX
Date/Time: 7/17/24 942			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20 AM

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042414833

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-071224-AB	DK864884	7,070.389	07/12/24 1324
MFL-FB01-071224-AB	DK864893	0	07/12/24 1200
MFL-AM01-071324-AB	DK864862	7,120.771	07/13/24 1047
MFL-AM02-071324-AB	DK864896	7,127.917	07/13/24 1110
MFL-AM03-071324-AB	DK864914	7,021.453	07/13/24 1255
MFL-AM04-071324-AB	DK864990	7,287.984	07/13/24 1328
MFL-FB01-071324-AB	DK864980	0	07/13/24 1200
MFL-AM01-071424-AB	DK864906	7,299.648	07/14/24 1051
MFL-AM02-071424-AB	DK864863	7,407.008	07/14/24 1148
MFL-AM03-071424-AB	DK864849	7,230.924	07/14/24 1303
MFL-AM04-071424-AB	DK864872	7,022.160	07/14/24 1333
MFL-FB01-071424-AB	DK864871	0	07/14/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL 17 AM 11:36

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/15/24 1100	Received by: FX	Date/Time: 7/17/24 9:44
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/26/2024 and Shanna Vasser 07/29/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/11/2024 – 07/14/2024
Report No: 42414833

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071524-AB** **Sample Description: DK864954**

EMSL Sample Number:	042415099-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6781.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0001 **Customer Sample:** MFL-AM01-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	F6	None Detected									
A5	B5	None Detected									
A6	H2	None Detected									
A6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071524-AB**		**Sample Description:**	**DK864902**
EMSL Sample Number:	042415099-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7040.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0002 **Customer Sample:** MFL-AM02-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B3	None Detected									
B1	E7	None Detected									
B1	J4	None Detected									
B2	A7	None Detected									
B2	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071524-AB**		**Sample Description:**	**DK864885**
EMSL Sample Number:	042415099-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7363.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0003 **Customer Sample:** MFL-AM03-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I9	None Detected									
B5	G4	None Detected									
B5	B7	None Detected									
B6	J6	None Detected									
B6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071524-AB**		**Sample Description:**	**DK864889**
EMSL Sample Number:	042415099-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7150.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0004 **Customer Sample:** MFL-AM04-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A7	None Detected									
C1	E4	None Detected									
C1	I3	None Detected									
C2	G8	None Detected									
C2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071524-AB** **Sample Description:** **DK864891**

EMSL Sample Number:	042415099-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0005 **Customer Sample:** MFL-FB01-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J7	None Detected									
C5	H4	None Detected									
C5	D5	None Detected									
C5	A8	None Detected									
C6	I6	None Detected									
C6	E5	None Detected									
C6	B6	None Detected									
C7	A3	None Detected									
C7	D7	None Detected									
C7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071624-AB** **Sample Description: DK864888**

EMSL Sample Number:	042415099-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0006 **Customer Sample:** MFL-AM01-071624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J4	None Detected									
D1	F7	None Detected									
D1	A4	None Detected									
D2	C9	None Detected									
D2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071624-AB** **Sample Description: DK864968**

EMSL Sample Number:	042415099-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0007 **Customer Sample:** MFL-AM02-071624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I6	None Detected									
D5	E3	None Detected									
D5	B7	None Detected									
D6	J9	None Detected									
D6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-071624-AB** **Sample Description: DK864890**

EMSL Sample Number:	042415099-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7167.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0008 **Customer Sample:** MFL-AM04-071624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	A7	None Detected									
E1	E9	None Detected									
E1	H6	None Detected									
E2	C6	None Detected									
E2	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071624-AB** **Sample Description:** **DK864839**

EMSL Sample Number:	042415099-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0009 **Customer Sample:** MFL-FB01-071624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J9	None Detected									
E5	G6	None Detected									
E5	D2	None Detected									
E5	A4	None Detected									
E6	I3	None Detected									
E6	E5	None Detected									
E6	C9	None Detected									
E7	H8	None Detected									
E7	G4	None Detected									
E7	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/27/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071724-AB**		**Sample Description:**	**DK864854**
EMSL Sample Number:	042415099-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0010 **Customer Sample:** MFL-AM01-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	B4	None Detected									
F2	E7	None Detected									
F2	H8	None Detected									
F3	C6	None Detected									
F3	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/27/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071724-AB** **Sample Description: DK864861**

EMSL Sample Number:	042415099-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7179.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0011 **Customer Sample:** MFL-AM02-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A3	None Detected									
F5	D7	None Detected									
F5	I4	None Detected									
F6	G6	None Detected									
F6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071724-AB**		**Sample Description:**	**DK864869**
EMSL Sample Number:	042415099-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0012 **Customer Sample:** MFL-AM03-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	F9	None Detected									
G1	I7	None Detected									
G2	C7	None Detected									
G2	G6	None Detected									
G2	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071724-AB**	**Sample Description:**	**DK864877**
EMSL Sample Number:	042415099-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	5268.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0013 **Customer Sample:** MFL-AM04-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	G4	None Detected									
G5	C7	None Detected									
G5	A5	None Detected									
G6	C4	None Detected									
G6	H7	None Detected									
G6	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071724-AB** **Sample Description:** **DK864842**

EMSL Sample Number:	042415099-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0014 **Customer Sample:** MFL-FB01-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A6	None Detected									
H1	C4	None Detected									
H1	E1	None Detected									
H1	G3	None Detected									
H1	I5	None Detected									
H2	J6	None Detected									
H2	H5	None Detected									
H2	F8	None Detected									
H2	D7	None Detected									
H2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042415099-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042415099
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A2	None Detected									
A1	D5	None Detected									
A1	F9	None Detected									
A1	H6	None Detected									
A2	I7	None Detected									
A2	G3	None Detected									
A2	C4	None Detected									
A3	H7	None Detected									
A3	E10	None Detected									
A3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042415099

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042415099

RECEIVED EMSL CINNAMINSON, NJ 24 JUL 22 AM 9:19

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Snber
Street Address: 1560 Broadway Stc1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.snber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Chelsea Snber
Sampled By Signature:
No. of Samples in Shipment: 14

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-071524-AB	DK864954	6,780.965	07/15/24 1058
* MFL-AM02-071524-AB	~~DK864885~~	~~7,363.789~~ EKS	07/15/24 1115
MFL-AM03-071524-AB	DK864885 EKS	7,363.789	07/15/24 1305
MFL-AM04-071524-AB	DK864889	7,150.385	07/15/24 1322
MFL-FB01-071524-AB	DK864891	0	07/15/24 1200
MFL-AM01-071624-AB	DK864888	7,213.022	07/16/24 1059
MFL-AM02-071624-AB	DK864968	7,195.634	07/16/24 1118
~~MFL-AM03-071624-AB~~	~~DK864870~~	~~2,888.2~~	~~07/16/24~~ EKS VOID

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Note: MFL-AM02-071524-AB s/w is DK864902 & the volume is 7,040.535 L

All samples received acceptable for analysis.

Method of Shipment: FedEx

Relinquished by:	Date/Time:	Received by:	Date/Time
	07/18/24 1100	FX	7/22/24 9:00am
Relinquished by:	Date/Time:	Received by:	Date/Time

Sample Condition Upon Receipt:

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

14 VOIDS

OrderID: 042415099

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

RECEIVED EMSL CINNAMINSON, NJ 24 JUL 22 AM 9:19

#042415099

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-071624-AB	DK864890	7,167.744	07/16/24 1325
MFL-FB01-071624-AB	DK864839	0	07/16/24 1200
MFL-AM01-071724-AB	DK864854	7,231.519	07/17/24 1056
MFL-AM02-071724-AB	DK864861	7,179.029	07/17/24 1111
MFL-AM03-071724-AB	DK864869	7,110.040	07/17/24 1258
MFL-AM04-071724-AB	DK864877	5,268.887	07/17/24 1338
MFL-FB01-071724-AB	DK864842	0	07/17/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/18/24 1100	Received by: FEDEX	Date/Time: 7/22/24 9:00
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/29/2024 and Shanna Vasser 08/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/15/2024-07/17/2024
Report No: 42415099

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM03-071624-AB was listed on the CoC, but crossed off, voided, and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes:

2. The original report made no comment regarding sample condition upon laboratory receipt. A revised laboratory report was issued on 7/30/2024 stating that all samples were received in acceptable condition for analysis.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 31, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/22/24 09:47.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-071124-HM	4072229-01	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM02-071124-HM	4072229-02	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM03-071124-HM	4072229-03	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM04-071124-HM	4072229-04	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM01-071224-HM	4072229-05	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM02-071224-HM	4072229-06	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM03-071224-HM	4072229-07	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM04-071224-HM	4072229-08	Air	07/12/24 23:59	07/22/24 09:47
MFL-FB01-071224-HM	4072229-09	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM01-071324-HM	4072229-10	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM02-071324-HM	4072229-11	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM03-071324-HM	4072229-12	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM04-071324-HM	4072229-13	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM01-071424-HM	4072229-14	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM02-071424-HM	4072229-15	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM03-071424-HM	4072229-16	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM04-071424-HM	4072229-17	Air	07/14/24 23:59	07/22/24 09:47
MFL-FB01-071424-HM	4072229-18	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM01-071524-HM	4072229-19	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM02-071524-HM	4072229-20	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM03-071524-HM	4072229-21	Air	07/15/24 23:59	07/22/24 09:47

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-071524-HM	4072229-22	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM01-071624-HM	4072229-23	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM02-071624-HM	4072229-24	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM03-071624-HM	4072229-25	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM04-071624-HM	4072229-26	Air	07/16/24 23:59	07/22/24 09:47
MFL-FB01-071624-HM	4072229-27	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM01-071724-HM	4072229-28	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM02-071724-HM	4072229-29	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM03-071724-HM	4072229-30	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM04-071724-HM	4072229-31	Air	07/17/24 23:59	07/22/24 09:47

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071124-HM
Matrix: Air
Lab ID: 4072229-01
Sample Volume: 1872.213 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 00:41

Comments: Q95446645 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.200**	SL	**0.0335**
Arsenic	**7440-38-2**	**9.20**		**0.00814**
Barium	**7440-39-3**	**19.5**		**0.930**
Beryllium	**7440-41-7**	**0.0766**		**0.00278**
Cadmium	**7440-43-9**	**0.102**		**0.0644**
Chromium	**7440-47-3**	**14.1**		**1.92**
Cobalt	**7440-48-4**	**3.11**		**0.0379**
Copper	**7440-50-8**	**74.0**		**2.29**
Lead	**7439-92-1**	**0.910**		**0.186**
Manganese	**7439-96-5**	**76.2**		**1.64**
Molybdenum	**7439-98-7**	**3.07**		**0.312**
Nickel	**7440-02-0**	**5.85**		**0.567**
Selenium	**7782-49-2**	**0.443**		**0.00779**
Thallium	**7440-28-0**	**0.00376**		**5.12E-4**
Vanadium	**7440-62-2**	**8.43**		**0.0460**
Zinc	7440-66-6	26.2	U	66.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071124-HM
Matrix: Air
Lab ID: 4072229-02
Sample Volume: 2032.623 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:01

Comments: Q95446642 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0989**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.18**		**0.00750**
Barium	**7440-39-3**	**19.1**		**0.856**
Beryllium	**7440-41-7**	**0.0929**		**0.00256**
Cadmium	**7440-43-9**	**0.835**		**0.0593**
Chromium	**7440-47-3**	**15.2**		**1.77**
Cobalt	**7440-48-4**	**3.88**		**0.0349**
Copper	**7440-50-8**	**39.5**		**2.11**
Lead	**7439-92-1**	**3.18**		**0.171**
Manganese	**7439-96-5**	**92.0**		**1.51**
Molybdenum	**7439-98-7**	**1.40**		**0.287**
Nickel	**7440-02-0**	**10.6**		**0.522**
Selenium	**7782-49-2**	**0.457**		**0.00717**
Thallium	**7440-28-0**	**0.00435**		**4.71E-4**
Zinc	7440-66-6	36.8	U	61.5

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071124-HM
Matrix: Air
Lab ID: 4072229-02RE1
Sample Volume: 2032.623 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 11:52

Comments: Q95446642 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**11.2**	D	**0.0847**

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071124-HM
Matrix: Air
Lab ID: 4072229-03
Sample Volume: 2024.135 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:21

Comments: Q95446640 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0233	U, SL	0.0310
Arsenic	**7440-38-2**	**0.283**		**0.00753**
Barium	**7440-39-3**	**4.68**		**0.860**
Beryllium	**7440-41-7**	**0.0655**		**0.00257**
Cadmium	7440-43-9	0.0187	U	0.0596
Chromium	**7440-47-3**	**5.22**		**1.78**
Cobalt	**7440-48-4**	**1.03**		**0.0350**
Copper	**7440-50-8**	**58.4**		**2.11**
Lead	**7439-92-1**	**0.534**		**0.172**
Manganese	**7439-96-5**	**22.1**		**1.52**
Molybdenum	**7439-98-7**	**2.73**		**0.289**
Nickel	**7440-02-0**	**2.58**		**0.524**
Selenium	**7782-49-2**	**0.276**		**0.00720**
Thallium	**7440-28-0**	**0.00208**		**4.73E-4**
Vanadium	**7440-62-2**	**2.52**		**0.0425**
Zinc	7440-66-6	9.96	U	61.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071124-HM
Matrix: Air
Lab ID: 4072229-04
Sample Volume: 1905.941 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/23/24 17:59

Comments: Q95446623 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0832**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.825**		**0.00800**
Barium	**7440-39-3**	**7.31**		**0.913**
Beryllium	**7440-41-7**	**0.0407**		**0.00273**
Cadmium	7440-43-9	0.0433	U	0.0633
Chromium	**7440-47-3**	**6.48**		**1.89**
Cobalt	**7440-48-4**	**1.33**		**0.0372**
Copper	**7440-50-8**	**23.3**		**2.25**
Lead	**7439-92-1**	**2.12**		**0.183**
Manganese	**7439-96-5**	**39.8**	QM-4X	**1.61**
Molybdenum	**7439-98-7**	**1.07**		**0.306**
Nickel	**7440-02-0**	**3.59**		**0.557**
Selenium	**7782-49-2**	**0.266**		**0.00765**
Thallium	**7440-28-0**	**0.00231**		**5.03E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0452**
Zinc	7440-66-6	24.4	U, PS-01	65.6

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071224-HM
Matrix: Air
Lab ID: 4072229-05
Sample Volume: 1995.619 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:40

Comments: Q95446637 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0581**	SL	**0.0315**
Arsenic	**7440-38-2**	**1.16**		**0.00764**
Barium	**7440-39-3**	**8.16**		**0.872**
Beryllium	**7440-41-7**	**0.0245**		**0.00261**
Cadmium	7440-43-9	0.0495	U	0.0604
Chromium	**7440-47-3**	**5.07**		**1.80**
Cobalt	**7440-48-4**	**0.998**		**0.0355**
Copper	**7440-50-8**	**178**		**2.14**
Lead	**7439-92-1**	**0.496**		**0.174**
Manganese	**7439-96-5**	**25.3**		**1.54**
Molybdenum	**7439-98-7**	**8.79**		**0.293**
Nickel	**7440-02-0**	**2.50**		**0.532**
Selenium	**7782-49-2**	**0.180**		**0.00730**
Thallium	**7440-28-0**	**0.00145**		**4.80E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0431**
Zinc	7440-66-6	13.1	U	62.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071224-HM
Matrix: Air
Lab ID: 4072229-06
Sample Volume: 2077.967 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:57

Comments: Q95446636 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0657**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.394**		**0.00734**
Barium	**7440-39-3**	**3.98**		**0.838**
Beryllium	**7440-41-7**	**0.0113**		**0.00251**
Cadmium	7440-43-9	0.0476	U	0.0580
Chromium	**7440-47-3**	**2.63**		**1.73**
Cobalt	**7440-48-4**	**0.372**		**0.0341**
Copper	**7440-50-8**	**35.3**		**2.06**
Lead	**7439-92-1**	**1.08**		**0.168**
Manganese	**7439-96-5**	**12.1**		**1.48**
Molybdenum	**7439-98-7**	**1.77**		**0.281**
Nickel	**7440-02-0**	**1.22**		**0.511**
Selenium	**7782-49-2**	**0.169**		**0.00702**
Thallium	**7440-28-0**	**9.53E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0414**
Zinc	7440-66-6	11.8	U	60.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071224-HM
Matrix: Air
Lab ID: 4072229-07
Sample Volume: 2060.292 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:12

Comments: Q95446635 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0323**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.183**		**0.00740**
Barium	**7440-39-3**	**2.68**		**0.845**
Beryllium	**7440-41-7**	**0.0221**		**0.00253**
Cadmium	7440-43-9	0.0237	U	0.0585
Chromium	**7440-47-3**	**2.75**		**1.75**
Cobalt	**7440-48-4**	**0.433**		**0.0344**
Copper	**7440-50-8**	**60.1**		**2.08**
Lead	**7439-92-1**	**0.510**		**0.169**
Manganese	**7439-96-5**	**10.5**		**1.49**
Molybdenum	**7439-98-7**	**2.95**		**0.284**
Nickel	**7440-02-0**	**1.17**		**0.515**
Selenium	**7782-49-2**	**0.158**		**0.00708**
Thallium	**7440-28-0**	**8.69E-4**		**4.65E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0418**
Zinc	7440-66-6	8.07	U	60.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071224-HM
Matrix: Air
Lab ID: 4072229-08
Sample Volume: 1825.863 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:26

Comments: Q95446634 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0762**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.638**		**0.00835**
Barium	**7440-39-3**	**4.16**		**0.953**
Beryllium	**7440-41-7**	**0.0136**		**0.00285**
Cadmium	7440-43-9	0.0480	U	0.0660
Chromium	**7440-47-3**	**3.00**		**1.97**
Cobalt	**7440-48-4**	**0.592**		**0.0389**
Copper	**7440-50-8**	**30.5**		**2.34**
Lead	**7439-92-1**	**0.951**		**0.191**
Manganese	**7439-96-5**	**19.1**		**1.68**
Molybdenum	**7439-98-7**	**1.56**		**0.320**
Nickel	**7440-02-0**	**1.32**		**0.581**
Selenium	**7782-49-2**	**0.185**		**0.00798**
Thallium	**7440-28-0**	**9.86E-4**		**5.25E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0471**
Zinc	7440-66-6	15.2	U	68.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071224-HM
Matrix: Air
Lab ID: 4072229-09
Sample Volume: 1995.619 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:41

Comments: Q95446628 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00898	U, SL	0.0315
Arsenic	**7440-38-2**	**0.0121**	FB-01	**0.00764**
Barium	7440-39-3	0.629	U	0.872
Beryllium	7440-41-7	0.00139	U	0.00261
Cadmium	7440-43-9	0.00246	U	0.0604
Chromium	7440-47-3	1.48	U	1.80
Cobalt	**7440-48-4**	**0.0404**	FB-01	**0.0355**
Copper	**7440-50-8**	**3.96**	FB-01	**2.14**
Lead	7439-92-1	0.140	U	0.174
Manganese	7439-96-5	0.384	U	1.54
Molybdenum	**7439-98-7**	**0.454**	FB-01	**0.293**
Nickel	7440-02-0	0.335	U	0.532
Selenium	7782-49-2	0.00711	U	0.00730
Thallium	7440-28-0	7.42E-5	U	4.80E-4
Vanadium	**7440-62-2**	**0.0555**	FB-01	**0.0431**
Zinc	7440-66-6	6.62	U	62.6

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071324-HM
Matrix: Air
Lab ID: 4072229-10
Sample Volume: 1858.987 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:55

Comments: Q95446632 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0371**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.514**		**0.00820**
Barium	**7440-39-3**	**4.85**		**0.936**
Beryllium	**7440-41-7**	**0.0178**		**0.00280**
Cadmium	7440-43-9	0.0265	U	0.0649
Chromium	**7440-47-3**	**4.43**		**1.93**
Cobalt	**7440-48-4**	**0.827**		**0.0382**
Copper	**7440-50-8**	**193**		**2.30**
Lead	**7439-92-1**	**0.382**		**0.187**
Manganese	**7439-96-5**	**20.2**		**1.65**
Molybdenum	**7439-98-7**	**8.68**		**0.314**
Nickel	**7440-02-0**	**2.30**		**0.571**
Selenium	**7782-49-2**	**0.202**		**0.00784**
Thallium	**7440-28-0**	**0.00153**		**5.15E-4**
Vanadium	**7440-62-2**	**2.43**		**0.0463**
Zinc	7440-66-6	10.2	U	67.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071324-HM
Matrix: Air
Lab ID: 4072229-11
Sample Volume: 2002.979 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 03:11

Comments: Q95446631 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0726**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.379**		**0.00761**
Barium	**7440-39-3**	**4.17**		**0.869**
Beryllium	**7440-41-7**	**0.0145**		**0.00260**
Cadmium	7440-43-9	0.0376	U	0.0602
Chromium	**7440-47-3**	**2.72**		**1.80**
Cobalt	**7440-48-4**	**0.414**		**0.0354**
Copper	**7440-50-8**	**41.7**		**2.14**
Lead	**7439-92-1**	**1.25**		**0.174**
Manganese	**7439-96-5**	**13.6**		**1.54**
Molybdenum	**7439-98-7**	**1.86**		**0.292**
Nickel	**7440-02-0**	**1.24**		**0.530**
Selenium	**7782-49-2**	**0.223**		**0.00728**
Thallium	**7440-28-0**	**0.00138**		**4.78E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0430**
Zinc	7440-66-6	13.8	U	62.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071324-HM
Matrix: Air
Lab ID: 4072229-12
Sample Volume: 1928.043 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:20

Comments: Q95446629 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0322	SL, U	0.0326
Arsenic	**7440-38-2**	**0.178**		**0.00791**
Barium	**7440-39-3**	**3.11**		**0.903**
Beryllium	**7440-41-7**	**0.0322**		**0.00270**
Cadmium	7440-43-9	0.0207	U	0.0625
Chromium	**7440-47-3**	**3.11**		**1.86**
Cobalt	**7440-48-4**	**0.489**		**0.0368**
Copper	**7440-50-8**	**52.5**		**2.22**
Lead	**7439-92-1**	**0.573**		**0.181**
Manganese	**7439-96-5**	**12.3**		**1.59**
Molybdenum	**7439-98-7**	**2.29**		**0.303**
Nickel	**7440-02-0**	**1.32**		**0.550**
Selenium	**7782-49-2**	**0.191**		**0.00756**
Thallium	**7440-28-0**	**0.00129**		**4.97E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0446**
Zinc	7440-66-6	12.1	U	64.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071324-HM
Matrix: Air
Lab ID: 4072229-13
Sample Volume: 1843.389 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:37

Comments: Q95446626 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0693**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.531**		**0.00827**
Barium	**7440-39-3**	**3.97**		**0.944**
Beryllium	**7440-41-7**	**0.0136**		**0.00282**
Cadmium	7440-43-9	0.0270	U	0.0654
Chromium	**7440-47-3**	**2.98**		**1.95**
Cobalt	**7440-48-4**	**0.427**		**0.0385**
Copper	**7440-50-8**	**25.3**		**2.32**
Lead	**7439-92-1**	**0.795**		**0.189**
Manganese	**7439-96-5**	**18.8**		**1.67**
Molybdenum	**7439-98-7**	**1.40**		**0.317**
Nickel	**7440-02-0**	**1.21**		**0.575**
Selenium	**7782-49-2**	**0.188**		**0.00791**
Thallium	**7440-28-0**	**0.00139**		**5.20E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0467**
Zinc	7440-66-6	12.7	U	67.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071424-HM
Matrix: Air
Lab ID: 4072229-14
Sample Volume: 1822.081 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:52

Comments: Q9539730 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0795**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.426**		**0.00837**
Barium	**7440-39-3**	**3.52**		**0.955**
Beryllium	**7440-41-7**	**0.00915**		**0.00286**
Cadmium	7440-43-9	0.0368	U	0.0662
Chromium	**7440-47-3**	**2.39**		**1.97**
Cobalt	**7440-48-4**	**0.331**		**0.0389**
Copper	**7440-50-8**	**231**		**2.35**
Lead	**7439-92-1**	**0.401**		**0.191**
Manganese	**7439-96-5**	**10.4**		**1.69**
Molybdenum	**7439-98-7**	**11.4**		**0.321**
Nickel	**7440-02-0**	**0.930**		**0.582**
Selenium	**7782-49-2**	**0.283**		**0.00800**
Thallium	**7440-28-0**	**0.00181**		**5.26E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0472**
Zinc	7440-66-6	8.61	U	68.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071424-HM
Matrix: Air
Lab ID: 4072229-15
Sample Volume: 1959.771 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:25

Comments: Q9539725 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.290**		**0.00778**
Barium	**7440-39-3**	**4.18**		**0.888**
Beryllium	**7440-41-7**	**0.0113**		**0.00266**
Cadmium	7440-43-9	0.0357	U	0.0615
Chromium	**7440-47-3**	**2.30**		**1.83**
Cobalt	**7440-48-4**	**0.318**		**0.0362**
Copper	**7440-50-8**	**69.1**		**2.18**
Lead	**7439-92-1**	**0.895**		**0.178**
Manganese	**7439-96-5**	**10.5**		**1.57**
Molybdenum	**7439-98-7**	**2.93**		**0.298**
Nickel	**7440-02-0**	**1.08**		**0.541**
Selenium	**7782-49-2**	**0.323**		**0.00744**
Thallium	**7440-28-0**	**0.00187**		**4.89E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0439**
Zinc	7440-66-6	11.0	U	63.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071424-HM
Matrix: Air
Lab ID: 4072229-16
Sample Volume: 1936.506 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:40

Comments: Q9539723 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0454**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.193**		**0.00787**
Barium	**7440-39-3**	**3.03**		**0.899**
Beryllium	**7440-41-7**	**0.0277**		**0.00269**
Cadmium	7440-43-9	0.0287	U	0.0623
Chromium	**7440-47-3**	**2.61**		**1.86**
Cobalt	**7440-48-4**	**0.422**		**0.0366**
Copper	**7440-50-8**	**53.5**		**2.21**
Lead	**7439-92-1**	**0.494**		**0.180**
Manganese	**7439-96-5**	**11.4**		**1.59**
Molybdenum	**7439-98-7**	**2.45**		**0.302**
Nickel	**7440-02-0**	**1.15**		**0.548**
Selenium	**7782-49-2**	**0.255**		**0.00753**
Thallium	**7440-28-0**	**0.00176**		**4.95E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0444**
Zinc	7440-66-6	8.67	U	64.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071424-HM
Matrix: Air
Lab ID: 4072229-17
Sample Volume: 1769.757 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:54

Comments: Q9539721 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0783**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.347**		**0.00861**
Barium	**7440-39-3**	**3.61**		**0.984**
Beryllium	**7440-41-7**	**0.0141**		**0.00294**
Cadmium	7440-43-9	0.0326	U	0.0681
Chromium	**7440-47-3**	**2.62**		**2.03**
Cobalt	**7440-48-4**	**0.389**		**0.0401**
Copper	**7440-50-8**	**28.3**		**2.42**
Lead	**7439-92-1**	**0.731**		**0.197**
Manganese	**7439-96-5**	**15.4**		**1.74**
Molybdenum	**7439-98-7**	**1.42**		**0.330**
Nickel	**7440-02-0**	**1.16**		**0.599**
Selenium	**7782-49-2**	**0.279**		**0.00824**
Thallium	**7440-28-0**	**0.00184**		**5.41E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0486**
Zinc	7440-66-6	11.7	U	70.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071424-HM
Matrix: Air
Lab ID: 4072229-18
Sample Volume: 1822.081 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:09

Comments: Q9539711 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0150	SL, U	0.0345
Arsenic	**7440-38-2**	**0.00948**	FB-01	**0.00837**
Barium	7440-39-3	0.515	U	0.955
Beryllium	7440-41-7	0.00108	U	0.00286
Cadmium	7440-43-9	0.00211	U	0.0662
Chromium	7440-47-3	1.50	U	1.97
Cobalt	7440-48-4	0.0255	U	0.0389
Copper	7440-50-8	2.05	U	2.35
Lead	7439-92-1	0.0878	U	0.191
Manganese	7439-96-5	0.265	U	1.69
Molybdenum	7439-98-7	0.221	U	0.321
Nickel	7440-02-0	0.372	U	0.582
Selenium	7782-49-2	0.00210	U	0.00800
Thallium	7440-28-0	6.48E-5	U	5.26E-4
Vanadium	7440-62-2	0.0402	U	0.0472
Zinc	7440-66-6	9.84	U	68.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071524-HM
Matrix: Air
Lab ID: 4072229-19
Sample Volume: 1856.151 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:23

Comments: Q9539720 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0735**	SL	**0.0338**
Arsenic	**7440-38-2**	**1.11**		**0.00821**
Barium	**7440-39-3**	**4.77**		**0.938**
Beryllium	**7440-41-7**	**0.0146**		**0.00280**
Cadmium	7440-43-9	0.0185	U	0.0650
Chromium	**7440-47-3**	**3.71**		**1.94**
Cobalt	**7440-48-4**	**0.629**		**0.0382**
Copper	**7440-50-8**	**256**		**2.31**
Lead	**7439-92-1**	**0.398**		**0.188**
Manganese	**7439-96-5**	**16.7**		**1.66**
Molybdenum	**7439-98-7**	**9.95**		**0.315**
Nickel	**7440-02-0**	**1.61**		**0.572**
Selenium	**7782-49-2**	**0.229**		**0.00785**
Thallium	**7440-28-0**	**0.00136**		**5.16E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0464**
Zinc	7440-66-6	14.0	U	67.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071524-HM
Matrix: Air
Lab ID: 4072229-20
Sample Volume: 1945.54 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:39

Comments: Q9539717 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.448**		**0.00784**
Barium	**7440-39-3**	**5.83**		**0.895**
Beryllium	**7440-41-7**	**0.0215**		**0.00268**
Cadmium	7440-43-9	0.0259	U	0.0620
Chromium	**7440-47-3**	**3.45**		**1.85**
Cobalt	**7440-48-4**	**0.684**		**0.0365**
Copper	**7440-50-8**	**54.6**		**2.20**
Lead	**7439-92-1**	**1.13**		**0.179**
Manganese	**7439-96-5**	**20.1**		**1.58**
Molybdenum	**7439-98-7**	**1.92**		**0.300**
Nickel	**7440-02-0**	**2.02**		**0.545**
Selenium	**7782-49-2**	**0.276**		**0.00749**
Thallium	**7440-28-0**	**0.00173**		**4.93E-4**
Vanadium	**7440-62-2**	**2.15**		**0.0442**
Zinc	7440-66-6	17.3	U	64.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071524-HM
Matrix: Air
Lab ID: 4072229-21
Sample Volume: 1915.033 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 07:49

Comments: Q9539714 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0468**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.252**		**0.00796**
Barium	**7440-39-3**	**3.94**		**0.909**
Beryllium	**7440-41-7**	**0.0483**		**0.00272**
Cadmium	7440-43-9	0.0129	U	0.0630
Chromium	**7440-47-3**	**3.23**		**1.88**
Cobalt	**7440-48-4**	**0.624**		**0.0370**
Copper	**7440-50-8**	**64.4**		**2.23**
Lead	**7439-92-1**	**0.593**		**0.182**
Manganese	**7439-96-5**	**15.2**		**1.61**
Molybdenum	**7439-98-7**	**2.54**		**0.305**
Nickel	**7440-02-0**	**1.69**		**0.554**
Selenium	**7782-49-2**	**0.244**		**0.00761**
Thallium	**7440-28-0**	**0.00158**		**5.00E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0449**
Zinc	7440-66-6	19.2	U	65.2

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071524-HM
Matrix: Air
Lab ID: 4072229-22
Sample Volume: 1741.985 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:05

Comments: Q9539712 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0845**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.463**		**0.00875**
Barium	**7440-39-3**	**4.54**		**0.999**
Beryllium	**7440-41-7**	**0.0174**		**0.00299**
Cadmium	7440-43-9	0.0156	U	0.0692
Chromium	**7440-47-3**	**3.41**		**2.06**
Cobalt	**7440-48-4**	**0.593**		**0.0407**
Copper	**7440-50-8**	**35.3**		**2.46**
Lead	**7439-92-1**	**0.880**		**0.200**
Manganese	**7439-96-5**	**23.7**		**1.77**
Molybdenum	**7439-98-7**	**1.62**		**0.335**
Nickel	**7440-02-0**	**1.55**		**0.609**
Selenium	**7782-49-2**	**0.245**		**0.00837**
Thallium	**7440-28-0**	**0.00152**		**5.50E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0494**
Zinc	7440-66-6	15.6	U	71.7

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071624-HM
Matrix: Air
Lab ID: 4072229-23
Sample Volume: 1875.346 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:21

Comments: Q9546621 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0422**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.969**		**0.00813**
Barium	**7440-39-3**	**6.03**		**0.928**
Beryllium	**7440-41-7**	**0.0253**		**0.00278**
Cadmium	7440-43-9	0.0205	U	0.0643
Chromium	**7440-47-3**	**4.83**		**1.92**
Cobalt	**7440-48-4**	**0.944**		**0.0378**
Copper	**7440-50-8**	**208**		**2.28**
Lead	**7439-92-1**	**0.605**		**0.186**
Manganese	**7439-96-5**	**26.5**		**1.64**
Molybdenum	**7439-98-7**	**7.95**		**0.311**
Nickel	**7440-02-0**	**2.41**		**0.566**
Selenium	**7782-49-2**	**0.224**		**0.00777**
Thallium	**7440-28-0**	**0.00199**		**5.11E-4**
Vanadium	**7440-62-2**	**2.66**		**0.0459**
Zinc	7440-66-6	27.9	U	66.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071624-HM
Matrix: Air
Lab ID: 4072229-24
Sample Volume: 2036.857 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/23/24 21:54

Comments: Q9539709 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.515**		**0.00748**
Barium	**7440-39-3**	**6.82**		**0.855**
Beryllium	**7440-41-7**	**0.0224**		**0.00256**
Cadmium	7440-43-9	0.0189	U	0.0592
Chromium	**7440-47-3**	**3.26**		**1.77**
Cobalt	**7440-48-4**	**0.672**		**0.0348**
Copper	**7440-50-8**	**63.2**	QM-07	**2.10**
Lead	**7439-92-1**	**1.69**		**0.171**
Manganese	**7439-96-5**	**21.8**		**1.51**
Molybdenum	**7439-98-7**	**1.82**	QM-07	**0.287**
Nickel	**7440-02-0**	**1.80**		**0.521**
Selenium	**7782-49-2**	**0.230**	SRD-01	**0.00716**
Thallium	**7440-28-0**	**0.00195**		**4.70E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0423**
Zinc	7440-66-6	22.8	U	61.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071624-HM
Matrix: Air
Lab ID: 4072229-25
Sample Volume: 2020.749 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:35

Comments: Q9539706 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0463**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.355**		**0.00754**
Barium	**7440-39-3**	**4.96**		**0.862**
Beryllium	**7440-41-7**	**0.0855**		**0.00258**
Cadmium	7440-43-9	0.0180	U	0.0597
Chromium	**7440-47-3**	**5.13**		**1.78**
Cobalt	**7440-48-4**	**1.09**		**0.0351**
Copper	**7440-50-8**	**37.3**		**2.12**
Lead	**7439-92-1**	**0.461**		**0.172**
Manganese	**7439-96-5**	**25.3**		**1.52**
Molybdenum	**7439-98-7**	**1.88**		**0.289**
Nickel	**7440-02-0**	**2.71**		**0.525**
Selenium	**7782-49-2**	**0.244**		**0.00721**
Thallium	**7440-28-0**	**0.00205**		**4.74E-4**
Vanadium	**7440-62-2**	**2.29**		**0.0426**
Zinc	7440-66-6	28.1	U	61.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071624-HM
Matrix: Air
Lab ID: 4072229-26
Sample Volume: 1890.142 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:51

Comments: Q9539705 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0778**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.447**		**0.00807**
Barium	**7440-39-3**	**4.11**		**0.921**
Beryllium	**7440-41-7**	**0.0169**		**0.00275**
Cadmium	7440-43-9	0.0180	U	0.0638
Chromium	**7440-47-3**	**2.95**		**1.90**
Cobalt	**7440-48-4**	**0.522**		**0.0375**
Copper	**7440-50-8**	**26.7**		**2.26**
Lead	**7439-92-1**	**0.852**		**0.184**
Manganese	**7439-96-5**	**18.3**		**1.63**
Molybdenum	**7439-98-7**	**1.55**		**0.309**
Nickel	**7440-02-0**	**1.40**		**0.561**
Selenium	**7782-49-2**	**0.202**		**0.00771**
Thallium	**7440-28-0**	**0.00165**		**5.07E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0455**
Zinc	7440-66-6	21.5	U	66.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071624-HM
Matrix: Air
Lab ID: 4072229-27
Sample Volume: 1875.346 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:06

Comments: Q9539703 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0114	SL, U	0.0335
Arsenic	**7440-38-2**	**0.0115**	FB-01	**0.00813**
Barium	7440-39-3	0.493	U	0.928
Beryllium	7440-41-7	9.26E-4	U	0.00278
Cadmium	7440-43-9	0.00113	U	0.0643
Chromium	7440-47-3	1.39	U	1.92
Cobalt	7440-48-4	0.0274	U	0.0378
Copper	7440-50-8	0.446	U	2.28
Lead	7439-92-1	0.0416	U	0.186
Manganese	7439-96-5	0.252	U	1.64
Molybdenum	7439-98-7	0.223	U	0.311
Nickel	7440-02-0	0.361	U	0.566
Selenium	7782-49-2	0.00481	U	0.00777
Thallium	7440-28-0	7.33E-5	U	5.11E-4
Vanadium	7440-62-2	0.0329	U	0.0459
Zinc	7440-66-6	5.67	U	66.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071724-HM
Matrix: Air
Lab ID: 4072229-28
Sample Volume: 1882.142 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:20

Comments: Q9539704 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0334**
Arsenic	**7440-38-2**	**2.89**		**0.00810**
Barium	**7440-39-3**	**11.4**		**0.925**
Beryllium	**7440-41-7**	**0.0477**		**0.00277**
Cadmium	7440-43-9	0.0425	U	0.0641
Chromium	**7440-47-3**	**8.74**		**1.91**
Cobalt	**7440-48-4**	**1.90**		**0.0377**
Copper	**7440-50-8**	**161**		**2.27**
Lead	**7439-92-1**	**0.849**		**0.185**
Manganese	**7439-96-5**	**49.2**		**1.63**
Molybdenum	**7439-98-7**	**5.91**		**0.310**
Nickel	**7440-02-0**	**4.22**		**0.564**
Selenium	**7782-49-2**	**0.276**		**0.00775**
Thallium	**7440-28-0**	**0.00263**		**5.09E-4**
Vanadium	**7440-62-2**	**5.40**		**0.0457**
Zinc	7440-66-6	30.5	U	66.4

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071724-HM
Matrix: Air
Lab ID: 4072229-29
Sample Volume: 1968.946 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:38

Comments: Q9539700 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.746**		**0.00774**
Barium	**7440-39-3**	**7.11**		**0.884**
Beryllium	**7440-41-7**	**0.0259**		**0.00264**
Cadmium	7440-43-9	0.0228	U	0.0612
Chromium	**7440-47-3**	**4.13**		**1.83**
Cobalt	**7440-48-4**	**0.898**		**0.0360**
Copper	**7440-50-8**	**60.4**		**2.17**
Lead	**7439-92-1**	**1.82**		**0.177**
Manganese	**7439-96-5**	**25.7**		**1.56**
Molybdenum	**7439-98-7**	**1.84**		**0.297**
Nickel	**7440-02-0**	**2.41**		**0.539**
Selenium	**7782-49-2**	**0.240**		**0.00740**
Thallium	**7440-28-0**	**0.00202**		**4.87E-4**
Vanadium	**7440-62-2**	**2.51**		**0.0437**
Zinc	7440-66-6	25.7	U	63.5

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071724-HM
Matrix: Air
Lab ID: 4072229-30
Sample Volume: 1907.027 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:54

Comments: Q9539699 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0528**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.257**		**0.00799**
Barium	**7440-39-3**	**4.22**		**0.913**
Beryllium	**7440-41-7**	**0.0571**		**0.00273**
Cadmium	7440-43-9	0.0118	U	0.0632
Chromium	**7440-47-3**	**3.94**		**1.89**
Cobalt	**7440-48-4**	**0.748**		**0.0372**
Copper	**7440-50-8**	**43.9**		**2.24**
Lead	**7439-92-1**	**0.494**		**0.183**
Manganese	**7439-96-5**	**17.2**		**1.61**
Molybdenum	**7439-98-7**	**2.13**		**0.306**
Nickel	**7440-02-0**	**1.81**		**0.556**
Selenium	**7782-49-2**	**0.189**		**0.00764**
Thallium	**7440-28-0**	**0.00151**		**5.03E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0451**
Zinc	7440-66-6	19.3	U	65.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071724-HM
Matrix: Air
Lab ID: 4072229-31
Sample Volume: 1713.635 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 11:19

Comments: Q9539698 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0956**	SL	**0.0366**
Arsenic	**7440-38-2**	**0.418**		**0.00890**
Barium	**7440-39-3**	**4.48**		**1.02**
Beryllium	**7440-41-7**	**0.0165**		**0.00304**
Cadmium	7440-43-9	0.0215	U	0.0704
Chromium	**7440-47-3**	**3.24**		**2.10**
Cobalt	**7440-48-4**	**0.526**		**0.0414**
Copper	**7440-50-8**	**26.9**		**2.50**
Lead	**7439-92-1**	**0.959**		**0.203**
Manganese	**7439-96-5**	**19.7**		**1.79**
Molybdenum	**7439-98-7**	**1.49**		**0.341**
Nickel	**7440-02-0**	**1.48**		**0.619**
Selenium	**7782-49-2**	**0.181**		**0.00851**
Thallium	**7440-28-0**	**0.00174**		**5.59E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0502**
Zinc	7440-66-6	24.8	U	72.9

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB1)				Prepared & Analyzed: 07/23/24						
Antimony	0.473		ng/l							
Arsenic	0.282		ng/l							
Barium	1.75		ng/l							
Beryllium	-0.0656		ng/l							U
Cadmium	0.181		ng/l							
Chromium	3.73		ng/l							
Cobalt	0.146		ng/l							
Copper	69.6		ng/l							
Lead	1.64		ng/l							
Manganese	5.82		ng/l							
Molybdenum	28.0		ng/l							
Nickel	4.24		ng/l							
Selenium	3.00		ng/l							
Thallium	0.854		ng/l							
Vanadium	44.3		ng/l							
Zinc	-36.1		ng/l							U
Calibration Blank (2407087-CCB2)				Prepared & Analyzed: 07/23/24						
Antimony	0.257		ng/l							
Arsenic	6.56		ng/l							
Barium	1.57		ng/l							
Beryllium	-0.171		ng/l							U
Cadmium	0.0526		ng/l							
Chromium	2.62		ng/l							
Cobalt	0.238		ng/l							
Copper	81.2		ng/l							
Lead	1.48		ng/l							
Manganese	4.16		ng/l							
Molybdenum	6.71		ng/l							
Nickel	3.19		ng/l							
Selenium	4.61		ng/l							
Thallium	0.599		ng/l							
Vanadium	16.2		ng/l							
Zinc	-70.7		ng/l							U
Calibration Blank (2407087-CCB3)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.273		ng/l							
Arsenic	3.21		ng/l							
Barium	1.27		ng/l							
Beryllium	-0.280		ng/l							U

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REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB3) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Cadmium	0.179		ng/l							
Chromium	4.25		ng/l							
Cobalt	0.197		ng/l							
Copper	88.4		ng/l							
Lead	1.61		ng/l							
Manganese	4.77		ng/l							
Molybdenum	8.73		ng/l							
Nickel	3.70		ng/l							
Selenium	5.65		ng/l							
Thallium	0.859		ng/l							
Vanadium	-3.12		ng/l							U
Zinc	-12.6		ng/l							U
Calibration Blank (2407087-CCB4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.419		ng/l							
Arsenic	9.73		ng/l							
Barium	1.15		ng/l							
Beryllium	-0.276		ng/l							U
Cadmium	0.100		ng/l							
Chromium	6.94		ng/l							
Cobalt	0.219		ng/l							
Copper	60.8		ng/l							
Lead	1.68		ng/l							
Manganese	4.48		ng/l							
Molybdenum	6.26		ng/l							
Nickel	5.60		ng/l							
Selenium	10.0		ng/l							
Thallium	0.738		ng/l							
Vanadium	-11.6		ng/l							U
Zinc	-76.1		ng/l							U
Calibration Blank (2407087-CCB5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.118		ng/l							
Arsenic	8.33		ng/l							
Barium	2.98		ng/l							
Beryllium	-0.773		ng/l							U
Cadmium	0.165		ng/l							
Chromium	6.27		ng/l							
Cobalt	0.293		ng/l							
Copper	55.9		ng/l							

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FILE #: 4205.00.003.001
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SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB5) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Lead	1.98		ng/l							
Manganese	6.59		ng/l							
Molybdenum	9.05		ng/l							
Nickel	4.74		ng/l							
Selenium	12.7		ng/l							
Thallium	0.888		ng/l							
Vanadium	-11.3		ng/l							U
Zinc	-68.0		ng/l							U
Calibration Blank (2407087-CCB6)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.283		ng/l							
Arsenic	9.08		ng/l							
Barium	2.24		ng/l							
Beryllium	-1.00		ng/l							U
Cadmium	0.124		ng/l							
Chromium	7.91		ng/l							
Cobalt	0.330		ng/l							
Copper	45.7		ng/l							
Lead	1.66		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.66		ng/l							
Nickel	3.99		ng/l							
Selenium	-3.37		ng/l							U
Thallium	0.766		ng/l							
Vanadium	-12.6		ng/l							U
Zinc	-72.8		ng/l							U
Calibration Blank (2407087-CCB7)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.149		ng/l							
Arsenic	7.54		ng/l							
Barium	1.82		ng/l							
Beryllium	-0.811		ng/l							U
Cadmium	0.204		ng/l							
Chromium	7.94		ng/l							
Cobalt	0.400		ng/l							
Copper	44.2		ng/l							
Lead	1.81		ng/l							
Manganese	4.39		ng/l							
Molybdenum	6.83		ng/l							
Nickel	3.30		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB7) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Selenium	7.52		ng/l							
Thallium	1.02		ng/l							
Vanadium	-14.8		ng/l							U
Zinc	-72.5		ng/l							U
Calibration Check (2407087-CCV1)				Prepared & Analyzed: 07/23/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19500		ng/l	20000		97.7	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV2)				Prepared & Analyzed: 07/23/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.1	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.9	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19500		ng/l	20000		97.6	90-110			
Thallium	478		ng/l	500.00		95.5	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV3)				Prepared & Analyzed: 07/23/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.2	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19800		ng/l	20000		99.1	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5380		ng/l	5000.0		108	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV5) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV6)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19400		ng/l	20000		96.9	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV7)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5300		ng/l	5000.0		106	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV7) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	483		ng/l	500.00		96.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
High Cal Check (2407087-HCV1)					Prepared & Analyzed: 07/23/24					
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39700		ng/l	40000		99.2	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39900		ng/l	40000		99.7	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	99000		ng/l	100000		99.0	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	99100		ng/l	100000		99.1	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	981		ng/l	1000.0		98.1	95-105			
Vanadium	39800		ng/l	40000		99.6	95-105			
Zinc	988000		ng/l	1.0000E6		98.8	95-105			
Initial Cal Blank (2407087-ICB1)					Prepared & Analyzed: 07/23/24					
Antimony	0.799		ng/l							
Arsenic	-2.82		ng/l							U
Barium	2.00		ng/l							
Beryllium	-0.123		ng/l							U
Cadmium	0.157		ng/l							
Chromium	3.06		ng/l							
Cobalt	0.207		ng/l							
Copper	75.5		ng/l							
Lead	1.52		ng/l							
Manganese	11.1		ng/l							
Molybdenum	11.2		ng/l							
Nickel	-0.842		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Initial Cal Blank (2407087-ICB1) Continu				Prepared & Analyzed: 07/23/24						
Selenium	20.4		ng/l							
Thallium	0.720		ng/l							
Vanadium	62.8		ng/l							
Zinc	-47.0		ng/l							U
Initial Cal Check (2407087-ICV1)				Prepared & Analyzed: 07/23/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	47800		ng/l	50000		95.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	118000		ng/l	120000		98.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	491		ng/l	500.00		98.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2407087-IFA1)				Prepared & Analyzed: 07/23/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Interference Check B (2407087-IFB1)				Prepared & Analyzed: 07/23/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4900		ng/l	5000.0		97.9	80-120			
Cadmium	20000		ng/l	20000		99.9	80-120			
Chromium	231000		ng/l	240000		96.1	80-120			
Cobalt	49600		ng/l	50000		99.2	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.8	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	375000		ng/l	350000		107	80-120			
Nickel	116000		ng/l	120000		96.6	80-120			
Selenium	19100		ng/l	20000		95.4	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.7	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4G2306 - ICP-MS Extraction										
Blank (B4G2306-BLK1)				Prepared & Analyzed: 07/23/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G2306-BS1)				Prepared & Analyzed: 07/23/24						
Antimony	0.764	0.0386	ng/m³ Air	1.3829		55.3	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
LCS (B4G2306-BS1) Continued				Prepared & Analyzed: 07/23/24						
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.5	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.6	80-120			
Manganese	8.47	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.67	0.00896	ng/m³ Air	2.7658		96.7	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4G2306-BS2)				Prepared & Analyzed: 07/23/24						
Antimony	0.745	0.0386	ng/m³ Air	1.3829		53.9	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.9	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.49	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.23	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.63	0.00896	ng/m³ Air	2.7658		94.9	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.7	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4G2306-DUP1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.0802	0.0330	ng/m³ Air		0.0832			3.64	10	SL
Arsenic	0.840	0.00800	ng/m³ Air		0.825			1.77	10	
Barium	7.30	0.913	ng/m³ Air		7.31			0.177	10	
Beryllium	0.0424	0.00273	ng/m³ Air		0.0407			3.87	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	6.64	1.89	ng/m³ Air		6.48			2.44	10	
Cobalt	1.33	0.0372	ng/m³ Air		1.33			0.0159	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP1) Continued			**Source: 4072229-04**		Prepared & Analyzed: 07/23/24					
Copper	25.0	2.25	ng/m³ Air		23.3			6.86	10	
Lead	2.02	0.183	ng/m³ Air		2.12			4.73	10	
Manganese	40.2	1.61	ng/m³ Air		39.8			0.808	10	
Molybdenum	1.04	0.306	ng/m³ Air		1.07			3.02	10	
Nickel	3.74	0.557	ng/m³ Air		3.59			4.13	10	
Selenium	0.275	0.00765	ng/m³ Air		0.266			3.56	10	
Thallium	0.00229	5.03E-4	ng/m³ Air		0.00231			0.923	10	
Vanadium	2.96	0.0452	ng/m³ Air		2.91			1.77	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP2)			**Source: 4072229-24**		Prepared & Analyzed: 07/23/24					
Antimony	0.159	0.0308	ng/m³ Air		0.163			1.97	10	SL
Arsenic	0.516	0.00748	ng/m³ Air		0.515			0.196	10	
Barium	6.71	0.855	ng/m³ Air		6.82			1.70	10	
Beryllium	0.0225	0.00256	ng/m³ Air		0.0224			0.236	10	
Cadmium	ND	0.0592	ng/m³ Air		ND				10	U
Chromium	3.31	1.77	ng/m³ Air		3.26			1.37	10	
Cobalt	0.682	0.0348	ng/m³ Air		0.672			1.53	10	
Copper	63.3	2.10	ng/m³ Air		63.2			0.239	10	
Lead	1.79	0.171	ng/m³ Air		1.69			5.48	10	
Manganese	21.8	1.51	ng/m³ Air		21.8			0.439	10	
Molybdenum	1.85	0.287	ng/m³ Air		1.82			1.75	10	
Nickel	1.82	0.521	ng/m³ Air		1.80			1.00	10	
Selenium	0.231	0.00716	ng/m³ Air		0.230			0.178	10	
Thallium	0.00193	4.70E-4	ng/m³ Air		0.00195			0.972	10	
Vanadium	2.00	0.0423	ng/m³ Air		2.00			0.270	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP3)			**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	0.0772	0.0345	ng/m³ Air		0.0795			2.88	10	SL
Arsenic	0.424	0.00837	ng/m³ Air		0.426			0.686	10	
Barium	3.50	0.955	ng/m³ Air		3.52			0.569	10	
Beryllium	0.0100	0.00286	ng/m³ Air		0.00915			9.34	10	
Cadmium	ND	0.0662	ng/m³ Air		ND				10	U
Chromium	2.37	1.97	ng/m³ Air		2.39			0.902	10	
Cobalt	0.327	0.0389	ng/m³ Air		0.331			1.20	10	
Copper	229	2.35	ng/m³ Air		231			0.697	10	
Lead	0.401	0.191	ng/m³ Air		0.401			0.0690	10	
Manganese	10.2	1.69	ng/m³ Air		10.4			1.15	10	
Molybdenum	11.3	0.321	ng/m³ Air		11.4			0.764	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP3) Continued		**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24						
Nickel	0.927	0.582	ng/m³ Air		0.930			0.405	10	
Selenium	0.269	0.00800	ng/m³ Air		0.283			5.22	10	
Thallium	0.00185	5.26E-4	ng/m³ Air		0.00181			1.87	10	
Vanadium	1.10	0.0472	ng/m³ Air		1.10			0.272	10	
Zinc	ND	68.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP4)		**Source: 4072229-30**		Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.0530	0.0329	ng/m³ Air		0.0528			0.321	10	SL
Arsenic	0.257	0.00799	ng/m³ Air		0.257			0.239	10	
Barium	4.20	0.913	ng/m³ Air		4.22			0.338	10	
Beryllium	0.0572	0.00273	ng/m³ Air		0.0571			0.138	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	3.94	1.89	ng/m³ Air		3.94			0.0813	10	
Cobalt	0.749	0.0372	ng/m³ Air		0.748			0.123	10	
Copper	43.9	2.24	ng/m³ Air		43.9			0.0541	10	
Lead	0.493	0.183	ng/m³ Air		0.494			0.152	10	
Manganese	17.1	1.61	ng/m³ Air		17.2			0.752	10	
Molybdenum	2.15	0.306	ng/m³ Air		2.13			1.01	10	
Nickel	1.80	0.556	ng/m³ Air		1.81			0.171	10	
Selenium	0.197	0.00764	ng/m³ Air		0.189			4.23	10	
Thallium	0.00149	5.03E-4	ng/m³ Air		0.00151			1.79	10	
Vanadium	1.61	0.0451	ng/m³ Air		1.61			0.0949	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Matrix Spike (B4G2306-MS1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.526	0.0330	ng/m³ Air	1.1805	0.0832	37.5	80-120			SL
Arsenic	2.92	0.00800	ng/m³ Air	2.3610	0.825	88.9	80-120			
Barium	30.2	0.913	ng/m³ Air	23.610	7.31	97.1	80-120			
Beryllium	1.19	0.00273	ng/m³ Air	1.1805	0.0407	97.5	80-120			
Cadmium	1.19	0.0633	ng/m³ Air	1.1805	ND	101	80-120			
Chromium	17.2	1.89	ng/m³ Air	11.805	6.48	90.7	80-120			
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	98.9	80-120			
Copper	45.8	2.25	ng/m³ Air	23.610	23.3	95.2	80-120			
Lead	13.4	0.183	ng/m³ Air	11.805	2.12	96.0	80-120			
Manganese	45.3	1.61	ng/m³ Air	7.0831	39.8	76.8	80-120			QM-4X
Molybdenum	2.06	0.306	ng/m³ Air	1.1805	1.07	84.2	80-120			
Nickel	5.58	0.557	ng/m³ Air	2.3610	3.59	84.6	80-120			
Selenium	2.42	0.00765	ng/m³ Air	2.3610	0.266	91.4	80-120			
Thallium	0.118	5.03E-4	ng/m³ Air	0.11805	0.00231	97.6	80-120			
Vanadium	4.86	0.0452	ng/m³ Air	2.3610	2.91	82.5	80-120			

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike (B4G2306-MS1) Continued Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Zinc	91.4	65.6	ng/m³ Air	70.831	ND	129	80-120			
Matrix Spike (B4G2306-MS2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.705	0.0308	ng/m³ Air	1.1046	0.163	49.1	80-120			SL
Arsenic	2.59	0.00748	ng/m³ Air	2.2093	0.515	93.8	80-120			
Barium	28.6	0.855	ng/m³ Air	22.093	6.82	98.6	80-120			
Beryllium	1.13	0.00256	ng/m³ Air	1.1046	0.0224	100	80-120			
Cadmium	1.12	0.0592	ng/m³ Air	1.1046	ND	101	80-120			
Chromium	14.2	1.77	ng/m³ Air	11.046	3.26	98.6	80-120			
Cobalt	1.76	0.0348	ng/m³ Air	1.1046	0.672	98.6	80-120			
Copper	86.4	2.10	ng/m³ Air	22.093	63.2	105	80-120			
Lead	12.8	0.171	ng/m³ Air	11.046	1.69	101	80-120			
Manganese	28.0	1.51	ng/m³ Air	6.6279	21.8	94.1	80-120			
Molybdenum	2.98	0.287	ng/m³ Air	1.1046	1.82	105	80-120			
Nickel	4.09	0.521	ng/m³ Air	2.2093	1.80	104	80-120			
Selenium	2.31	0.00716	ng/m³ Air	2.2093	0.230	94.0	80-120			
Thallium	0.107	4.70E-4	ng/m³ Air	0.11046	0.00195	94.9	80-120			
Vanadium	4.12	0.0423	ng/m³ Air	2.2093	2.00	95.7	80-120			
Zinc	86.9	61.3	ng/m³ Air	66.279	ND	131	80-120			
Matrix Spike Dup (B4G2306-MSD1) Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Antimony	0.530	0.0330	ng/m³ Air	1.1805	0.0832	37.9	80-120	0.791	20	SL
Arsenic	2.99	0.00800	ng/m³ Air	2.3610	0.825	91.7	80-120	2.22	20	
Barium	30.9	0.913	ng/m³ Air	23.610	7.31	99.7	80-120	2.00	20	
Beryllium	1.17	0.00273	ng/m³ Air	1.1805	0.0407	95.4	80-120	2.14	20	
Cadmium	1.20	0.0633	ng/m³ Air	1.1805	ND	101	80-120	0.519	20	
Chromium	18.2	1.89	ng/m³ Air	11.805	6.48	99.3	80-120	5.77	20	
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	99.0	80-120	0.0497	20	
Copper	46.7	2.25	ng/m³ Air	23.610	23.3	99.0	80-120	1.94	20	
Lead	13.7	0.183	ng/m³ Air	11.805	2.12	98.1	80-120	1.86	20	
Manganese	47.1	1.61	ng/m³ Air	7.0831	39.8	103	80-120	3.96	20	
Molybdenum	2.10	0.306	ng/m³ Air	1.1805	1.07	87.3	80-120	1.78	20	
Nickel	6.04	0.557	ng/m³ Air	2.3610	3.59	104	80-120	7.85	20	
Selenium	2.45	0.00765	ng/m³ Air	2.3610	0.266	92.7	80-120	1.23	20	
Thallium	0.117	5.03E-4	ng/m³ Air	0.11805	0.00231	97.4	80-120	0.232	20	
Vanadium	5.13	0.0452	ng/m³ Air	2.3610	2.91	94.1	80-120	5.48	20	
Zinc	93.2	65.6	ng/m³ Air	70.831	ND	132	80-120	1.87	20	
Matrix Spike Dup (B4G2306-MSD2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.718	0.0308	ng/m³ Air	1.1046	0.163	50.3	80-120	1.87	20	SL
Arsenic	2.65	0.00748	ng/m³ Air	2.2093	0.515	96.7	80-120	2.49	20	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike Dup (B4G2306-MSD2) Conti				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Barium	31.5	0.855	ng/m³ Air	22.093	6.82	112	80-120	9.56	20	
Beryllium	1.12	0.00256	ng/m³ Air	1.1046	0.0224	99.3	80-120	0.906	20	
Cadmium	1.14	0.0592	ng/m³ Air	1.1046	ND	103	80-120	2.07	20	
Chromium	14.9	1.77	ng/m³ Air	11.046	3.26	106	80-120	5.40	20	
Cobalt	1.79	0.0348	ng/m³ Air	1.1046	0.672	101	80-120	1.75	20	
Copper	91.2	2.10	ng/m³ Air	22.093	63.2	127	80-120	5.36	20	QM-07
Lead	12.9	0.171	ng/m³ Air	11.046	1.69	101	80-120	0.510	20	
Manganese	28.4	1.51	ng/m³ Air	6.6279	21.8	101	80-120	1.52	20	
Molybdenum	3.31	0.287	ng/m³ Air	1.1046	1.82	135	80-120	10.4	20	QM-07
Nickel	4.12	0.521	ng/m³ Air	2.2093	1.80	105	80-120	0.820	20	
Selenium	2.34	0.00716	ng/m³ Air	2.2093	0.230	95.4	80-120	1.38	20	
Thallium	0.109	4.70E-4	ng/m³ Air	0.11046	0.00195	96.5	80-120	1.57	20	
Vanadium	4.18	0.0423	ng/m³ Air	2.2093	2.00	98.6	80-120	1.54	20	
Zinc	88.3	61.3	ng/m³ Air	66.279	ND	133	80-120	1.54	20	
Post Spike (B4G2306-PS1)				**Source: 4072229-04**		Prepared & Analyzed: 07/23/24				
Antimony	0.317	0.0330	ng/m³ Air	0.23610	0.0832	99.0	75-125			SL
Arsenic	1.93	0.00800	ng/m³ Air	1.1805	0.825	93.4	75-125			
Barium	9.52	0.913	ng/m³ Air	2.3610	7.31	93.6	75-125			
Beryllium	0.273	0.00273	ng/m³ Air	0.23610	0.0407	98.3	75-125			
Cadmium	0.158	0.0633	ng/m³ Air	0.11805	ND	134	75-125			
Chromium	7.62	1.89	ng/m³ Air	1.1805	6.48	96.3	75-125			
Cobalt	1.56	0.0372	ng/m³ Air	0.23610	1.33	96.6	75-125			
Copper	35.2	2.25	ng/m³ Air	11.805	23.3	101	75-125			
Lead	25.5	0.183	ng/m³ Air	23.610	2.12	99.2	75-125			
Manganese	42.5	1.61	ng/m³ Air	2.3610	39.8	113	75-125			
Molybdenum	2.13	0.306	ng/m³ Air	1.1805	1.07	89.6	75-125			
Nickel	5.92	0.557	ng/m³ Air	2.3610	3.59	98.9	75-125			
Selenium	1.35	0.00765	ng/m³ Air	1.1805	0.266	91.5	75-125			
Thallium	0.0598	5.03E-4	ng/m³ Air	5.9026E-2	0.00231	97.4	75-125			
Vanadium	4.05	0.0452	ng/m³ Air	1.1805	2.91	96.9	75-125			
Zinc	ND	65.6	ng/m³ Air	23.610	ND		75-125			PS-01, U
Post Spike (B4G2306-PS2)				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Antimony	0.387	0.0308	ng/m³ Air	0.22093	0.163	101	75-125			SL
Arsenic	1.57	0.00748	ng/m³ Air	1.1046	0.515	95.3	75-125			
Barium	8.97	0.855	ng/m³ Air	2.2093	6.82	97.3	75-125			
Beryllium	0.252	0.00256	ng/m³ Air	0.22093	0.0224	104	75-125			
Cadmium	0.128	0.0592	ng/m³ Air	0.11046	ND	116	75-125			
Chromium	4.29	1.77	ng/m³ Air	1.1046	3.26	92.8	75-125			

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Post Spike (B4G2306-PS2) Continued		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Cobalt	0.888	0.0348	ng/m³ Air	0.22093	0.672	97.6	75-125			
Copper	74.3	2.10	ng/m³ Air	11.046	63.2	100	75-125			
Lead	24.1	0.171	ng/m³ Air	22.093	1.69	101	75-125			
Manganese	24.0	1.51	ng/m³ Air	2.2093	21.8	100	75-125			
Molybdenum	2.89	0.287	ng/m³ Air	1.1046	1.82	96.7	75-125			
Nickel	3.97	0.521	ng/m³ Air	2.2093	1.80	98.1	75-125			
Selenium	1.25	0.00716	ng/m³ Air	1.1046	0.230	92.6	75-125			
Thallium	0.0564	4.70E-4	ng/m³ Air	5.5232E-2	0.00195	98.5	75-125			
Vanadium	3.03	0.0423	ng/m³ Air	1.1046	2.00	93.0	75-125			
Zinc	ND	61.3	ng/m³ Air	22.093	ND		75-125			U
Dilution Check (B4G2306-SRL1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.886	0.0400	ng/m³ Air		0.825			7.12	10	
Barium	7.48	4.57	ng/m³ Air		7.31			2.25	10	
Beryllium	0.0441	0.0137	ng/m³ Air		0.0407			7.90	10	
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.43	ng/m³ Air		ND				10	U
Cobalt	1.40	0.186	ng/m³ Air		1.33			5.13	10	
Copper	24.7	11.2	ng/m³ Air		23.3			5.86	10	
Lead	2.15	0.913	ng/m³ Air		2.12			1.48	10	
Manganese	41.9	8.07	ng/m³ Air		39.8			5.05	10	
Molybdenum	ND	1.53	ng/m³ Air		ND				10	U
Nickel	3.80	2.78	ng/m³ Air		3.59			5.76	10	
Selenium	0.288	0.0382	ng/m³ Air		0.266			8.10	10	
Thallium	0.00366	0.00251	ng/m³ Air		ND			45.1	10	
Vanadium	3.07	0.226	ng/m³ Air		2.91			5.40	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4G2306-SRL2)		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Antimony	0.160	0.154	ng/m³ Air		0.163			1.57	10	SL
Arsenic	0.530	0.0374	ng/m³ Air		0.515			2.85	10	
Barium	6.77	4.27	ng/m³ Air		6.82			0.716	10	
Beryllium	0.0238	0.0128	ng/m³ Air		0.0224			5.86	10	
Cadmium	ND	0.296	ng/m³ Air		ND				10	U
Chromium	ND	8.83	ng/m³ Air		ND				10	U
Cobalt	0.686	0.174	ng/m³ Air		0.672			2.09	10	
Copper	66.1	10.5	ng/m³ Air		63.2			4.48	10	
Lead	1.68	0.855	ng/m³ Air		1.69			0.570	10	
Manganese	22.3	7.55	ng/m³ Air		21.8			2.28	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Dilution Check (B4G2306-SRL2) ContinueSource: 4072229-24 Prepared & Analyzed: 07/23/24										
Molybdenum	1.85	1.43	ng/m³ Air		1.82			1.32	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.270	0.0358	ng/m³ Air		0.230			15.7	10	SRD-01
Thallium	0.00393	0.00235	ng/m³ Air		ND			67.4	10	
Vanadium	2.07	0.211	ng/m³ Air		2.00			3.00	10	
Zinc	ND	307	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/01/2024 and Shanna Vasser 08/01/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/27/2024 and 07/11/2024 – 07/17/2027
Report No: 4072229

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, cobalt, copper, molybdenum, and vanadium in in MFL-FB01-071224-HM, for arsenic in MFL-FB01-071424-HM, and for arsenic in MFL-FB01-071624-HM.

Notes:

4. MFL-AM04-062724-HM was previously marked as void and not shipped due to low volume. It was later determined that there was sufficient volume for the lab to analyze and included with this shipment for analysis.
7. MFL-AM02-071124-HM was analyzed at a two-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

July 18 through July 24, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from July 18 through July 24, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from July 18 through July 24 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$) screening level.

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

Daily air sampling at all four community locations accorded with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 $\mu g/m^3$ screening level, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's

analytical sensitivity (see **Table 2)**. Notably, the laboratory commented "Numerous gypsum fibers present" regarding samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on July 22 and 23
- WW Pump Station #4 on July 22 and 24

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analysis; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3, respectively, for total dust as time-weighted averages (National Institute for Occupational Safety and Health [NIOSH] and Occupational Safety and Health Administration [OSHA]). While total dust sampling has not occurred, results of size-discriminated particulate sampling (PM_{10}) at these locations do not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

All ambient air samples from all four community sampling locations yielded low levels of metals, all below SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally south-southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA Environmental Response Team (ERT) SOPs 2008, "General Air Monitoring and Sampling Guidelines," and 2015 "Asbestos Air Sampling," included in the CAMSP.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter

- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook.”

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
July 18 through July 24, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
7/18/2024	Leialii Hawaiian Homelands (AM-01)	8.0
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	8.5
7/19/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	5.3
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	10
7/20/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	11
7/21/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	9.2
7/22/2024	Leialii Hawaiian Homelands (AM-01)	19
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.0
7/23/2024	Leialii Hawaiian Homelands (AM-01)	7.9
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	45
	Lahaina Boys & Girls Club (AM-04)	10
7/24/2024	Leialii Hawaiian Homelands (AM-01)	9.3
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	13

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
July 18 through July 24, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
7/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000916	0.00264	0.00965	0.0000497	ND	0.00788	0.00156	0.142	0.000560	0.0390	0.00539	0.00384	0.000251	0.00000216	0.00456	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000148	0.000711	0.00774	0.0000247	ND	0.00410	0.000885	0.0704	0.00132	0.0248	0.00214	0.00253	0.000212	0.00000167	0.00264	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000578	0.000321	0.00526	0.0000755	ND	0.00453	0.000981	0.0711	0.000898	0.0221	0.00298	0.00231	0.000229	0.00000164	0.00204	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000111	0.000481	0.00575	0.0000208	ND	0.00380	0.000730	0.0334	0.00104	0.0308	0.00183	0.00182	0.000186	0.00000163	0.00189	ND
7/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000844	0.00201	0.00818	0.0000355	ND	0.00745	0.00159	0.143	0.000608	0.0368	0.00530	0.00434	0.000232	0.00000182	0.00435	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000524	0.00695	0.0000240	ND	0.00432	0.000830	0.0767	0.00190	0.0221	0.00215	0.00248	0.000197	0.00000136	0.00244	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000448	0.000306	0.00440	0.0000518	ND	0.00452	0.000796	0.0701	0.000643	0.0203	0.00280	0.00226	0.000216	0.00000138	0.00190	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000732	0.000386	0.00476	0.0000195	0.000147	0.00374	0.000595	0.0363	0.00105	0.0224	0.00174	0.00193	0.000168	0.00000127	0.00161	ND
7/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000461	0.000401	0.00408	0.0000141	ND	0.00383	0.000551	0.190	0.000362	0.0145	0.0119	0.00179	0.000161	0.00000131	0.00189	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000109	0.000414	0.00529	0.0000143	0.0000593	0.00276	0.000413	0.0392	0.00157	0.0132	0.00261	0.00122	0.000166	0.00000141	0.00154	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000562	0.000238	0.00315	0.0000198	ND	0.00301	0.000454	0.0420	0.000448	0.0117	0.00233	0.00164	0.000131	0.00000153	0.00127	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000818	0.000304	0.00393	0.0000128	ND	0.00316	0.000421	0.0393	0.000834	0.0138	0.00228	0.00131	0.000157	0.00000142	0.00130	ND
7/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000517	0.000550	0.00526	0.000021	ND	0.00397	0.000597	0.235	0.000564	0.0184	0.0180	0.00171	0.000260	0.00000299	0.00229	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000819	0.000714	0.00644	0.0000308	ND	0.00335	0.000694	0.0388	0.00200	0.0232	0.00207	0.00211	0.000304	0.00000261	0.00257	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000553	0.000264	0.00322	0.0000139	ND	0.00257	0.000327	0.0614	0.000775	0.00928	0.00313	0.00137	0.000247	0.00000217	0.00115	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000930	0.000394	0.00420	0.0000123	ND	0.00270	0.000371	0.0279	0.000851	0.0132	0.00175	0.00131	0.000259	0.00000231	0.00146	ND
7/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000622	0.000607	0.00729	0.0000334	ND	0.00627	0.00122	0.241	0.000565	0.0302	0.0160	0.00371	0.000306	0.00000255	0.00404	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000111	0.000780	0.00797	0.0000189	ND	0.00275	0.000494	0.0318	0.00152	0.0156	0.00213	0.00163	0.000291	0.00000228	0.00193	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000553	0.000210	0.00297	0.0000246	ND	0.00276	0.000422	0.0445	0.000483	0.0107	0.00327	0.00128	0.000225	0.00000208	0.00118	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000957	0.000478	0.00351	0.0000143	ND	0.00278	0.000413	0.0276	0.00101	0.0136	0.00168	0.00133	0.000240	0.00000213	0.00127	ND
7/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000190	0.00652	0.0204	0.0000725	0.0000991	0.0137	0.00319	0.175	0.00107	0.0835	0.0107	0.00588	0.000412	0.00000454	0.00942	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000109	0.000780	0.00862	0.0000384	ND	0.00591	0.00142	0.0419	0.00177	0.0372	0.00278	0.00386	0.000252	0.00000235	0.00444	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000517	0.000307	0.00426	0.0000497	ND	0.00401	0.000798	0.0537	0.000647	0.0177	0.00360	0.00225	0.000190	0.00000165	0.00177	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000886	0.000446	0.00406	0.0000143	ND	0.00283	0.000534	0.0282	0.00103	0.0149	0.00204	0.00135	0.000163	0.00000145	0.00139	ND
7/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000628	0.000834	0.00658	0.0000257	ND	0.00633	0.00130	0.197	0.000371	0.0295	0.0132	0.00340	0.000214	0.00000144	0.00390	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000123	0.000746	0.00622	0.0000218	ND	0.00349	0.000672	0.0428	0.00277	0.0204	0.00261	0.00186	0.000209	0.00000125	0.00237	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000512	0.000295	0.00347	0.0000315	ND	0.00310	0.000520	0.0464	0.000731	0.0122	0.00336	0.00152	0.000156	0.000000944	0.00141	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000759	0.000426	0.00380	0.0000154	ND	0.00300	0.000468	0.0366	0.00107	0.0148	0.00237	0.00144	0.000167	0.000000996	0.00144	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000990	0.00689	0.0000350	0.000732	0.00499	0.00100	0.106	0.00124	0.0268	0.00601	0.00263	0.000240	0.00000210	0.00295	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 18 through July 24, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
7/18/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	85	52	761.1
7/18/2024	AM-02	WW Pump Station #4	1.1	SSE	83	58	763.3
7/18/2024	AM-03	Lahaina Intermediate School	1.3	ESE	80	55	753.8
7/18/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSW	78	60	762.9
7/19/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	85	60	761.2
7/19/2024	AM-02	WW Pump Station #4	1.0	SSE	82	67	763.4
7/19/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	65	753.9
7/19/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	78	67	762.9
7/20/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	86	61	761.2
7/20/2024	AM-02	WW Pump Station #4	1.0	SSE	84	67	763.4
7/20/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	63	753.9
7/20/2024	AM-04	Lahaina Boys & Girls Club	1.1	SW	80	67	762.9
7/21/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	86	62	762.0
7/21/2024	AM-02	WW Pump Station #4	1.1	S	84	69	764.1
7/21/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	65	754.7
7/21/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSW	79	69	763.7
7/22/2024	AM-01	Leialii Hawaiian Homelands	1.6	E	85	61	761.3
7/22/2024	AM-02	WW Pump Station #4	1.2	SE	84	65	763.4
7/22/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	63	753.9
7/22/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	79	67	763.0
7/23/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	87	62	759.9
7/23/2024	AM-02	WW Pump Station #4	1.0	S	85	67	762.0
7/23/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	64	752.5
7/23/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSW	80	66	761.5
7/24/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	87	63	761.0
7/24/2024	AM-02	WW Pump Station #4	0.9	S	84	71	763.1
7/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	66	753.7
7/24/2024	AM-04	Lahaina Boys & Girls Club	1.1	SW	80	69	762.7

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in depth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071824-AB** **Sample Description: DK864855**

EMSL Sample Number:	042415375-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0001 **Customer Sample:** MFL-AM01-071824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	H6	None Detected									
A5	F7	None Detected									
A6	H6	None Detected									
A6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071824-AB**	**Sample Description:**	**DK864852**
EMSL Sample Number:	042415375-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7306.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0002 **Customer Sample:** MFL-AM02-071824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	E3	None Detected									
B1	B4	None Detected									
B2	B6	None Detected									
B2	E8	None Detected									
B2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071824-AB**		**Sample Description:**	**DK864864**
EMSL Sample Number:	042415375-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	1858.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	17
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 13.63	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 13.63**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0003 **Customer Sample:** MFL-AM03-071824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	J7	None Detected									
B6	I5	None Detected									
B6	H1	None Detected									
B6	G7	None Detected									
B6	F4	None Detected									
B6	E1	None Detected									
B6	D3	None Detected									
B6	C6	None Detected									
B6	B4	None Detected									
B6	A7	None Detected									
B7	A4	None Detected									
B7	B1	None Detected									
B7	C5	None Detected									
B7	D9	None Detected									
B7	E4	None Detected									
B7	F1	None Detected									
B7	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	07/30/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071824-AB**		**Sample Description:**	**DK864860**
EMSL Sample Number:	042415375-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0004 **Customer Sample:** MFL-AM04-071824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A4	None Detected									
C2	C5	None Detected									
C2	F9	None Detected									
C3	I6	None Detected									
C3	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-071824-AB**		**Sample Description:**	**DL247156**
EMSL Sample Number:	042415375-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0005 **Customer Sample:** MFL-FB01-071824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A5	None Detected									
C5	C8	None Detected									
C5	E7	None Detected									
C5	G4	None Detected									
C5	I6	None Detected									
C6	J5	None Detected									
C6	H3	None Detected									
C6	F4	None Detected									
C6	D6	None Detected									
C6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071924-AB**	**Sample Description:**	**DL247174**
EMSL Sample Number:	042415375-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7182.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0006 **Customer Sample:** MFL-AM01-071924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	D2	None Detected									
D1	F4	None Detected									
D2	H1	None Detected									
D2	F4	None Detected									
D2	D1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071924-AB**		**Sample Description:**	**DL247162**
EMSL Sample Number:	042415375-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7319.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0007 **Customer Sample:** MFL-AM02-071924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B5	None Detected									
D5	D8	None Detected									
D5	G10	None Detected									
D6	I1	None Detected									
D6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-071924-AB** **Sample Description: DL247161**

EMSL Sample Number:	042415375-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4506.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0008 **Customer Sample:** MFL-AM03-071924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J9	None Detected									
E2	H7	None Detected									
E2	F2	None Detected									
E2	C4	None Detected									
E3	A8	None Detected									
E3	D9	None Detected									
E3	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-071924-AB** **Sample Description: DL247152**

EMSL Sample Number:	042415375-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0009 **Customer Sample:** MFL-AM04-071924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J5	None Detected									
E5	H6	None Detected									
E5	C7	None Detected									
E6	H7	None Detected									
E6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071924-AB** **Sample Description: DL247130**

EMSL Sample Number:	042415375-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0010 **Customer Sample:** MFL-FB01-071924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B1	None Detected									
F1	D3	None Detected									
F1	F4	None Detected									
F1	H2	None Detected									
F1	J3	None Detected									
F2	J7	None Detected									
F2	H6	None Detected									
F2	F4	None Detected									
F2	D7	None Detected									
F2	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-072024-AB** **Sample Description:** **DL247157**

EMSL Sample Number:	042415375-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0011 **Customer Sample:** MFL-AM01-072024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J9	None Detected									
F5	H5	None Detected									
F5	E4	None Detected									
F6	H4	None Detected									
F6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-072024-AB** **Sample Description: DL247134**

EMSL Sample Number:	042415375-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0012 **Customer Sample:** MFL-AM02-072024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	H9	None Detected									
G1	F7	None Detected									
G1	D3	None Detected									
G2	D4	None Detected									
G2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072024-AB**	**Sample Description:**	**DL247129**
EMSL Sample Number:	042415375-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	5012.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0010**	**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0013 **Customer Sample:** MFL-AM03-072024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J4	None Detected									
G5	G1	None Detected									
G5	D6	None Detected									
G6	H6	None Detected									
G6	E8	None Detected									
G6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-072024-AB** **Sample Description: DL247180**

EMSL Sample Number:	042415375-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7102.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0014 **Customer Sample:** MFL-AM04-072024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B4	None Detected									
H1	D6	None Detected									
H1	G9	None Detected									
H2	G2	None Detected									
H2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-072024-AB** **Sample Description:** **DL247131**

EMSL Sample Number:	042415375-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0015 **Customer Sample:** MFL-FB01-072024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A3	None Detected									
H5	C5	None Detected									
H5	E2	None Detected									
H5	G4	None Detected									
H5	I6	None Detected									
H6	A6	None Detected									
H6	C5	None Detected									
H6	E7	None Detected									
H6	F7	None Detected									
H6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-072124-AB** **Sample Description: DL247166**

EMSL Sample Number:	042415375-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0016 **Customer Sample:** MFL-AM01-072124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J3	None Detected									
I2	G2	None Detected									
I2	C5	None Detected									
I3	C8	None Detected									
I3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-072124-AB** **Sample Description: DL247132**

EMSL Sample Number:	042415375-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7267.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415375**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0017 **Customer Sample:** MFL-AM02-072124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J5	None Detected									
I5	G4	None Detected									
I5	C6	None Detected									
I6	H7	None Detected									
I6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-072124-AB** **Sample Description: DL247135**

EMSL Sample Number:	042415375-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4451.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 33.11	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.11**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0018 **Customer Sample:** MFL-AM03-072124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	C7	None Detected									
J1	E4	None Detected									
J1	H7	None Detected									
J2	H4	None Detected									
J2	B5	None Detected									
J3	D7	None Detected									
J3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-072124-AB** **Sample Description: DL247177**

EMSL Sample Number:	042415375-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0019 **Customer Sample:** MFL-AM04-072124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I3	None Detected									
J5	E1	None Detected									
J5	B3	None Detected									
J6	C4	None Detected									
J6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-072124-AB** **Sample Description:** **DL247181**

EMSL Sample Number:	042415375-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0020 **Customer Sample:** MFL-FB01-072124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J9	None Detected									
K1	H7	None Detected									
K1	F10	None Detected									
K1	D10	None Detected									
K1	B7	None Detected									
K2	A1	None Detected									
K2	C4	None Detected									
K2	F2	None Detected									
K2	H1	None Detected									
K2	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415375
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/24/2024 10:00 AM
Analysis Date:	07/30/2024
Report Date:	07/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042415375-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415375
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415375-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J6	None Detected									
A2	I5	None Detected									
A2	F7	None Detected									
A2	D10	None Detected									
A2	B4	None Detected									
A3	J8	None Detected									
A3	H4	None Detected									
A3	F2	None Detected									
A3	D5	None Detected									
A3	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only: 042415375

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: EnvAsbLab@EMSL.com

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CINNAMINSON, NJ
24 JUL 24 PM 1:37

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information
Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information
Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information
Project Name/No: Mavi Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (if applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature: L D
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)
☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week
TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-071824-AB		DK864855	7,197.302	07/18/24 1059
MFL-AM02-071824-AB		DK864852	7,306.486	07/18/24 1116
MFL-AM03-071824-AB		DK864864	1,858.388	07/18/24 1258
MFL-AM04-071824-AB		DK864860	7,185.295	07/18/24 ~~1340~~ (LD) 1323
MFL-FB01-071824-AB		DL247156	(LD) ~~7,197.302~~ 0	07/18/24 1200
MFL-AM01-071924-AB		DL247174	7,181.982	07/19/24 1059
MFL-AM02-071924-AB		DL247162	7,319.306	07/19/24 1136
MFL-AM03-071924-AB		DL247161	4,506.118	07/19/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fed Ex
Relinquished by: [signature] Date/Time: 07/22/24 1100
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: [signature] Date/Time 7-24-24 10
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of 2

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042415375

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)	
MFL-AM04-071924-AB		DL247152	7,173.360	07/19/24	1327
MFL-FB01-071924-AB		DL247130	0	07/19/24	1200
MFL-AM01-072024-AB		DL247157	7,176.554	07/20/24	1057
MFL-AM02-072024-AB		DL247134	7,057.035	07/20/24	1112
MFL-AM03-072024-AB		DL247129	5,012.118	07/20/24	1258
MFL-AM04-072024-AB		DL247180	7,102.485	07/20/24	1320
MFL-FB01-072024-AB		DL247131	0	07/20/24	1200
MFL-AM01-072124-AB		DL247166	7,204.125	07/21/24	1057
MFL-AM02-072124-AB		DL247132	7,267.796	07/21/24	1113
MFL-AM03-072124-AB		DL247135	4,451.131	07/21/24	1258
MFL-AM04-072124-AB		DL247177	7,143.818	07/21/24	1315
MFL-FB01-072124-AB		DL247181	0	07/21/24	1200

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/22/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/31/2024 and Shanna Vasser 08/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/18/2024 – 07/21/2024
Report No: 42415375

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
X	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

5. Sample MFL-AM03-071824-AB had a much lower volume (1,858.388 L). Therefore, to reach the desired analytical sensitivity, the laboratory analyzed the sample for 17 grid openings.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072224-AB**		**Sample Description:**	**DL247164**
EMSL Sample Number:	042415726-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7220.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0001 **Customer Sample:** MFL-AM01-072224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	F7	None Detected									
A5	A4	None Detected									
A6	C6	None Detected									
A6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072224-AB**		**Sample Description:**	**DL247137**
EMSL Sample Number:	042415726-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0002 **Customer Sample:** MFL-AM02-072224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I3	None Detected									
B1	H7	None Detected									
B1	D5	None Detected									
B2	A4	None Detected									
B2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072224-AB**	**Sample Description:**	**DL247136**
EMSL Sample Number:	042415726-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	5134.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0010**	**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0003 **Customer Sample:** MFL-AM03-072224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	H8	None Detected									
B5	H4	None Detected									
B5	C5	None Detected									
B6	A3	None Detected									
B6	F3	None Detected									
B6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072224-AB**		**Sample Description:**	**DL247122**
EMSL Sample Number:	042415726-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0004 **Customer Sample:** MFL-AM04-072224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J5	None Detected									
C1	E9	None Detected									
C1	A5	None Detected									
C2	J7	None Detected									
C2	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-072224-AB**		**Sample Description:**	**DL247146**
EMSL Sample Number:	042415726-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415726**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0005 **Customer Sample:** MFL-FB01-072224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A2	None Detected									
C5	C7	None Detected									
C5	F9	None Detected									
C5	H5	None Detected									
C6	B4	None Detected									
C6	D7	None Detected									
C6	F3	None Detected									
C7	C8	None Detected									
C7	E4	None Detected									
C7	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415726
Customer ID:	TTDC42
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Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072324-AB**		**Sample Description:**	**DL247151**
EMSL Sample Number:	042415726-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7267.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0006 **Customer Sample:** MFL-AM01-072324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A6	None Detected									
D1	D5	None Detected									
D1	G8	None Detected									
D2	H5	None Detected									
D2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072324-AB**		**Sample Description:**	**DL247139**
EMSL Sample Number:	042415726-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7309.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0007 **Customer Sample:** MFL-AM02-072324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I5	None Detected									
D5	E3	None Detected									
D5	B5	None Detected									
D6	C8	None Detected									
D6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072324-AB**		**Sample Description:**	**DL247138**
EMSL Sample Number:	042415726-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7393.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0008 **Customer Sample:** MFL-AM03-072324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I5	None Detected									
E1	E7	None Detected									
E1	A4	None Detected									
E2	C8	None Detected									
E2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072324-AB**	**Sample Description:**	**Dl247170**
EMSL Sample Number:	042415726-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7179.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0009 **Customer Sample:** MFL-AM04-072324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A5	None Detected									
E5	D8	None Detected									
E5	G4	None Detected									
E6	J9	None Detected									
E6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-072324-AB** **Sample Description:** **DL247142**

EMSL Sample Number:	042415726-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0010 **Customer Sample:** MFL-FB01-072324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J7	None Detected									
F1	G3	None Detected									
F1	E5	None Detected									
F1	A3	None Detected									
F2	B8	None Detected									
F2	D4	None Detected									
F2	I5	None Detected									
F3	J5	None Detected									
F3	E2	None Detected									
F3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072424-AB**		**Sample Description:**	**DL247133**
EMSL Sample Number:	042415726-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7226.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0011 **Customer Sample:** MFL-AM01-072424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I7	None Detected									
F5	F3	None Detected									
F5	A6	None Detected									
F6	G8	None Detected									
F6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072424-AB**	**Sample Description:**	**DL247144**
EMSL Sample Number:	042415726-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0012 **Customer Sample:** MFL-AM02-072424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J5	None Detected									
G1	F8	None Detected									
G1	B5	None Detected									
G2	C9	None Detected									
G2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072424-AB**	**Sample Description:**	**DL247173**
EMSL Sample Number:	042415726-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7108.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0013 **Customer Sample:** MFL-AM03-072424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	F8	None Detected									
G5	I5	None Detected									
G6	C3	None Detected									
G6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072424-AB**	**Sample Description:**	**DL247155**
EMSL Sample Number:	042415726-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7088.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0014 **Customer Sample:** MFL-AM04-072424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I7	None Detected									
H1	G3	None Detected									
H1	C4	None Detected									
H2	H2	None Detected									
H2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/02/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-072424-AB** **Sample Description:** **DL247141**

EMSL Sample Number:	042415726-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0015 **Customer Sample:** MFL-FB01-072424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A8	None Detected									
H5	D5	None Detected									
H5	G2	None Detected									
H5	J6	None Detected									
H6	H9	None Detected									
H6	E4	None Detected									
H6	B3	None Detected									
H7	I4	None Detected									
H7	F6	None Detected									
H7	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/29/2024 08:55 AM
Analysis Date:	08/01/2024
Report Date:	08/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042415726-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042415726
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415726-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	H2	None Detected									
A1	E7	None Detected									
A1	B5	None Detected									
A2	I8	None Detected									
A2	F4	None Detected									
A2	D6	None Detected									
A2	B7	None Detected									
A3	A5	None Detected									
A3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042415726

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042415726

RECEIVED EMSL CINNAMINSON, N.J. 2024 JUL 29 A 10:32

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

P.O. To is the same as "Report To" leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE. 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karyn Saldaña
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
	MFL-AM01-072224-AB	DL247164	7,220.054	07/22/24 1057
	MFL-AM02-072224-AB	DL247137	7,157.015	07/22/24 1117
*	MFL-AM03-072224-AB	DL247136	5,134.756	07/22/24 1302
	MFL-AM04-072224-AB	DL247122	7,178.688	07/22/24 1318
	MFL-FB01-072224-AB	DL247146	0	07/22/24 1200
	MFL-AM01-072324-AB	DL247151	7,266.960	07/23/24 1059
	MFL-AM02-072324-AB	DL247139	7,309.589	07/23/24 1124
	MFL-AM03-072324-AB	DL247138	7,393.765	07/23/24 1304

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Note: Contact Chelsea Saber before opening additional grids. Lower volume due to equipment faulting.

All samples received acceptable for analysis.

Method of Shipment: Fed Ex
Relinquished by: Date/Time: 07/25/24 1100
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: FX Date/Time: 7/29/24 8:55a
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042415726

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042415726

RECEIVED EMSL CINNAMINSON, N.J. 2024 JUL 29 A 10:32

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
E-MAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Units of Detection, etc.)

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-072324-AB		DL247170	~~7,179.192~~ ~~7,679.192~~ (CKS)	07/23/24 1327
MFL-FB01-072324-AB		DL247142	0	07/23/24 1200
MFL-AM01-072424-AB		~~DL247133~~ ~~DL247138~~ (CKS)	7,226.242	07/24/24 1102
MFL-AM02-072424-AB		DL247144	7,116.324	07/24/24 1119
MFL-AM03-072424-AB		DL247173	7,108.487	07/24/24 1303
MFL-AM04-072424-AB		DL247155	7,088.555	07/24/24 1322
MFL-FB01-072424-AB		DL247141	0	07/24/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/25/24 1100	Received by:	Date/Time: 7/29/24 855a
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/05/2024 and Shanna Vasser 08/06/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/22/2024 – 7/24/2024
Report No: 042415726

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes:

2. The CoC noted that MFL-AM03-072224-AB had lower volume due to equipment faulting. The sample was analyzed with an additional grid opening.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

August 06, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/29/24 10:35.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-071824-HM	4072929-01	Air	07/18/24 23:59	07/29/24 10:35
MFL-AM02-071824-HM	4072929-02	Air	07/18/24 23:59	07/29/24 10:35
MFL-AM03-071824-HM	4072929-03	Air	07/18/24 23:59	07/29/24 10:35
MFL-AM04-071824-HM	4072929-04	Air	07/18/24 23:59	07/29/24 10:35
MFL-FB01-071824-HM	4072929-05	Air	07/18/24 00:00	07/29/24 10:35
MFL-AM01-071924-HM	4072929-06	Air	07/19/24 23:59	07/29/24 10:35
MFL-AM02-071924-HM	4072929-07	Air	07/19/24 23:59	07/29/24 10:35
MFL-AM03-071924-HM	4072929-08	Air	07/19/24 23:59	07/29/24 10:35
MFL-AM04-071924-HM	4072929-09	Air	07/19/24 23:59	07/29/24 10:35
MFL-AM01-072024-HM	4072929-10	Air	07/20/24 23:59	07/29/24 10:35
MFL-AM02-072024-HM	4072929-11	Air	07/20/24 23:59	07/29/24 10:35
MFL-AM03-072024-HM	4072929-12	Air	07/20/24 23:59	07/29/24 10:35
MFL-AM04-072024-HM	4072929-13	Air	07/20/24 23:59	07/29/24 10:35
MFL-FB01-072024-HM	4072929-14	Air	07/20/24 00:00	07/29/24 10:35
MFL-LB01-072024-HM	4072929-15	Air	07/20/24 00:00	07/29/24 10:35
MFL-AM01-072124-HM	4072929-16	Air	07/21/24 23:59	07/29/24 10:35
MFL-AM02-072124-HM	4072929-17	Air	07/21/24 23:59	07/29/24 10:35
MFL-AM03-072124-HM	4072929-18	Air	07/21/24 23:59	07/29/24 10:35
MFL-AM04-072124-HM	4072929-19	Air	07/21/24 23:59	07/29/24 10:35
MFL-AM01-072224-HM	4072929-20	Air	07/22/24 23:59	07/29/24 10:35
MFL-AM02-072224-HM	4072929-21	Air	07/22/24 23:59	07/29/24 10:35

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-072224-HM	4072929-22	Air	07/22/24 23:59	07/29/24 10:35
MFL-AM04-072224-HM	4072929-23	Air	07/22/24 23:59	07/29/24 10:35
MFL-FB01-072224-HM	4072929-24	Air	07/22/24 00:00	07/29/24 10:35
MFL-AM01-072324-HM	4072929-25	Air	07/23/24 23:59	07/29/24 10:35
MFL-AM02-072324-HM	4072929-26	Air	07/23/24 23:59	07/29/24 10:35
MFL-AM03-072324-HM	4072929-27	Air	07/23/24 23:59	07/29/24 10:35
MFL-AM04-072324-HM	4072929-28	Air	07/23/24 23:59	07/29/24 10:35
MFL-AM01-072424-HM	4072929-29	Air	07/24/24 23:59	07/29/24 10:35
MFL-AM02-072424-HM	4072929-30	Air	07/24/24 23:59	07/29/24 10:35
MFL-AM03-072424-HM	4072929-31	Air	07/24/24 23:59	07/29/24 10:35
MFL-AM04-072424-HM	4072929-32	Air	07/24/24 23:59	07/29/24 10:35
MFL-FB01-072424-HM	4072929-33	Air	07/24/24 00:00	07/29/24 10:35

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071824-HM
Matrix: Air
Lab ID: 4072929-01
Sample Volume: 1897.193 m³
Filter ID:
Sampled: 07/18/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 03:07

Comments: Q9539697 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0916**		**0.0331**
Arsenic	**7440-38-2**	**2.64**		**0.00804**
Barium	**7440-39-3**	**9.65**		**0.918**
Beryllium	**7440-41-7**	**0.0497**		**0.00274**
Cadmium	7440-43-9	0.0464	U	0.0635
Chromium	**7440-47-3**	**7.88**		**1.90**
Cobalt	**7440-48-4**	**1.56**		**0.0374**
Copper	**7440-50-8**	**142**		**2.26**
Lead	**7439-92-1**	**0.560**		**0.184**
Manganese	**7439-96-5**	**39.0**		**1.62**
Molybdenum	**7439-98-7**	**5.39**		**0.308**
Nickel	**7440-02-0**	**3.84**		**0.559**
Selenium	**7782-49-2**	**0.251**		**0.00768**
Thallium	**7440-28-0**	**0.00216**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**4.56**		**0.0454**
Zinc	7440-66-6	18.9	U	65.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071824-HM
Matrix: Air
Lab ID: 4072929-02
Sample Volume: 1988.843 m³
Filter ID:
Sampled: 07/18/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 03:26

Comments: Q9539696 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.148**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.711**		**0.00767**
Barium	**7440-39-3**	**7.74**		**0.875**
Beryllium	**7440-41-7**	**0.0247**		**0.00262**
Cadmium	7440-43-9	0.0191	U	0.0606
Chromium	**7440-47-3**	**4.10**		**1.81**
Cobalt	**7440-48-4**	**0.885**		**0.0357**
Copper	**7440-50-8**	**70.4**		**2.15**
Lead	**7439-92-1**	**1.32**		**0.175**
Manganese	**7439-96-5**	**24.8**		**1.55**
Molybdenum	**7439-98-7**	**2.14**		**0.294**
Nickel	**7440-02-0**	**2.53**		**0.533**
Selenium	**7782-49-2**	**0.212**		**0.00733**
Thallium	**7440-28-0**	**0.00167**	QB-04	**4.82E-4**
Vanadium	**7440-62-2**	**2.64**		**0.0433**
Zinc	7440-66-6	20.6	U	62.8

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071824-HM
Matrix: Air
Lab ID: 4072929-03
Sample Volume: 1934.077 m³
Filter ID:
Sampled: 07/18/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 03:42

Comments: Q9539695 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0578**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.321**		**0.00788**
Barium	**7440-39-3**	**5.26**		**0.900**
Beryllium	**7440-41-7**	**0.0755**		**0.00269**
Cadmium	7440-43-9	0.0152	U	0.0623
Chromium	**7440-47-3**	**4.53**		**1.86**
Cobalt	**7440-48-4**	**0.981**		**0.0367**
Copper	**7440-50-8**	**71.1**		**2.21**
Lead	**7439-92-1**	**0.898**		**0.180**
Manganese	**7439-96-5**	**22.1**		**1.59**
Molybdenum	**7439-98-7**	**2.98**		**0.302**
Nickel	**7440-02-0**	**2.31**		**0.548**
Selenium	**7782-49-2**	**0.229**		**0.00754**
Thallium	**7440-28-0**	**0.00164**	QB-04	**4.95E-4**
Vanadium	**7440-62-2**	**2.04**		**0.0445**
Zinc	7440-66-6	17.1	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071824-HM
Matrix: Air
Lab ID: 4072929-04
Sample Volume: 1734.635 m³
Filter ID:
Sampled: 07/18/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 04:01

Comments: Q9539694 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0362**
Arsenic	**7440-38-2**	**0.481**		**0.00879**
Barium	**7440-39-3**	**5.75**		**1.00**
Beryllium	**7440-41-7**	**0.0208**		**0.00300**
Cadmium	7440-43-9	0.0264	U	0.0695
Chromium	**7440-47-3**	**3.80**		**2.07**
Cobalt	**7440-48-4**	**0.730**		**0.0409**
Copper	**7440-50-8**	**33.4**		**2.47**
Lead	**7439-92-1**	**1.04**		**0.201**
Manganese	**7439-96-5**	**30.8**		**1.77**
Molybdenum	**7439-98-7**	**1.83**		**0.337**
Nickel	**7440-02-0**	**1.82**		**0.612**
Selenium	**7782-49-2**	**0.186**		**0.00840**
Thallium	**7440-28-0**	**0.00163**	QB-04	**5.52E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0496**
Zinc	7440-66-6	18.2	U	72.0

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071824-HM
Matrix: Air
Lab ID: 4072929-05
Sample Volume: 1897.193 m³
Filter ID:
Sampled: 07/18/24 00:00
Received: 07/29/24 10:35
Analysis Date: 07/31/24 04:15

Comments: Q9539690 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0122	SL, U	0.0331
Arsenic	7440-38-2	0.00575	U	0.00804
Barium	7440-39-3	0.678	U	0.918
Beryllium	7440-41-7	0.00130	U	0.00274
Cadmium	7440-43-9	0.00229	U	0.0635
Chromium	7440-47-3	1.58	U	1.90
Cobalt	7440-48-4	0.0296	U	0.0374
Copper	7440-50-8	1.11	U	2.26
Lead	7439-92-1	0.0854	U	0.184
Manganese	7439-96-5	0.266	U	1.62
Molybdenum	7439-98-7	0.264	U	0.308
Nickel	7440-02-0	0.284	U	0.559
Selenium	7782-49-2	0.00335	U	0.00768
Thallium	7440-28-0	1.47E-4	QB-04, U	5.05E-4
Vanadium	7440-62-2	0.0425	U	0.0454
Zinc	7440-66-6	13.0	U	65.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071924-HM
Matrix: Air
Lab ID: 4072929-06
Sample Volume: 1867.515 m³
Filter ID:
Sampled: 07/19/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 00:12

Comments: Q9539693 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0844**	SL	**0.0336**
Arsenic	**7440-38-2**	**2.01**	QM-07	**0.00816**
Barium	**7440-39-3**	**8.18**		**0.932**
Beryllium	**7440-41-7**	**0.0355**		**0.00279**
Cadmium	7440-43-9	0.0302	U	0.0646
Chromium	**7440-47-3**	**7.45**	A-01	**1.93**
Cobalt	**7440-48-4**	**1.59**	A-01	**0.0380**
Copper	**7440-50-8**	**143**	A-01	**2.29**
Lead	**7439-92-1**	**0.608**		**0.186**
Manganese	**7439-96-5**	**36.8**	A-01	**1.65**
Molybdenum	**7439-98-7**	**5.30**	QM-4X	**0.313**
Nickel	**7440-02-0**	**4.34**		**0.568**
Selenium	**7782-49-2**	**0.232**		**0.00781**
Thallium	**7440-28-0**	**0.00182**	QB-04	**5.13E-4**
Vanadium	**7440-62-2**	**4.35**		**0.0461**
Zinc	7440-66-6	15.5	U	66.9

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071924-HM
Matrix: Air
Lab ID: 4072929-07
Sample Volume: 2051.254 m³
Filter ID:
Sampled: 07/19/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 04:30

Comments: Q9539691 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.524**		**0.00743**
Barium	**7440-39-3**	**6.95**		**0.849**
Beryllium	**7440-41-7**	**0.0240**		**0.00254**
Cadmium	7440-43-9	0.0177	U	0.0588
Chromium	**7440-47-3**	**4.32**		**1.75**
Cobalt	**7440-48-4**	**0.830**		**0.0346**
Copper	**7440-50-8**	**76.7**		**2.09**
Lead	**7439-92-1**	**1.90**		**0.170**
Manganese	**7439-96-5**	**22.1**		**1.50**
Molybdenum	**7439-98-7**	**2.15**		**0.285**
Nickel	**7440-02-0**	**2.48**		**0.517**
Selenium	**7782-49-2**	**0.197**		**0.00711**
Thallium	**7440-28-0**	**0.00136**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**2.44**		**0.0420**
Zinc	7440-66-6	22.3	U	60.9

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071924-HM
Matrix: Air
Lab ID: 4072929-08
Sample Volume: 1970.219 m³
Filter ID:
Sampled: 07/19/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 04:48

Comments: Q9539689 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0448**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.306**		**0.00774**
Barium	**7440-39-3**	**4.40**		**0.884**
Beryllium	**7440-41-7**	**0.0518**		**0.00264**
Cadmium	7440-43-9	0.0163	U	0.0612
Chromium	**7440-47-3**	**4.52**		**1.83**
Cobalt	**7440-48-4**	**0.796**		**0.0360**
Copper	**7440-50-8**	**70.1**		**2.17**
Lead	**7439-92-1**	**0.643**		**0.177**
Manganese	**7439-96-5**	**20.3**		**1.56**
Molybdenum	**7439-98-7**	**2.80**		**0.296**
Nickel	**7440-02-0**	**2.26**		**0.538**
Selenium	**7782-49-2**	**0.216**		**0.00740**
Thallium	**7440-28-0**	**0.00138**	QB-04	**4.86E-4**
Vanadium	**7440-62-2**	**1.90**		**0.0437**
Zinc	7440-66-6	19.8	U	63.4

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071924-HM
Matrix: Air
Lab ID: 4072929-09
Sample Volume: 1838.082 m³
Filter ID:
Sampled: 07/19/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 05:06

Comments: Q9539688 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0732**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.386**		**0.00829**
Barium	**7440-39-3**	**4.76**		**0.947**
Beryllium	**7440-41-7**	**0.0195**		**0.00283**
Cadmium	**7440-43-9**	**0.147**		**0.0656**
Chromium	**7440-47-3**	**3.74**		**1.96**
Cobalt	**7440-48-4**	**0.595**		**0.0386**
Copper	**7440-50-8**	**36.3**		**2.33**
Lead	**7439-92-1**	**1.05**		**0.189**
Manganese	**7439-96-5**	**22.4**		**1.67**
Molybdenum	**7439-98-7**	**1.74**		**0.318**
Nickel	**7440-02-0**	**1.93**		**0.577**
Selenium	**7782-49-2**	**0.168**		**0.00793**
Thallium	**7440-28-0**	**0.00127**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0468**
Zinc	7440-66-6	16.5	U	68.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072024-HM
Matrix: Air
Lab ID: 4072929-10
Sample Volume: 1880.865 m³
Filter ID:
Sampled: 07/20/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 05:20

Comments: Q9539686 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0461**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.401**		**0.00811**
Barium	**7440-39-3**	**4.08**		**0.926**
Beryllium	**7440-41-7**	**0.0141**		**0.00277**
Cadmium	7440-43-9	0.0217	U	0.0641
Chromium	**7440-47-3**	**3.83**		**1.91**
Cobalt	**7440-48-4**	**0.551**		**0.0377**
Copper	**7440-50-8**	**190**		**2.28**
Lead	**7439-92-1**	**0.362**		**0.185**
Manganese	**7439-96-5**	**14.5**		**1.63**
Molybdenum	**7439-98-7**	**11.9**		**0.311**
Nickel	**7440-02-0**	**1.79**		**0.564**
Selenium	**7782-49-2**	**0.161**		**0.00775**
Thallium	**7440-28-0**	**0.00131**	QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0458**
Zinc	7440-66-6	13.5	U	66.4

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072024-HM
Matrix: Air
Lab ID: 4072929-11
Sample Volume: 2036.314 m³
Filter ID:
Sampled: 07/20/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 05:35

Comments: Q9539685 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.414**		**0.00749**
Barium	**7440-39-3**	**5.29**		**0.855**
Beryllium	**7440-41-7**	**0.0143**		**0.00256**
Cadmium	**7440-43-9**	**0.0593**		**0.0592**
Chromium	**7440-47-3**	**2.76**		**1.77**
Cobalt	**7440-48-4**	**0.413**		**0.0348**
Copper	**7440-50-8**	**39.2**		**2.10**
Lead	**7439-92-1**	**1.57**		**0.171**
Manganese	**7439-96-5**	**13.2**		**1.51**
Molybdenum	**7439-98-7**	**2.61**		**0.287**
Nickel	**7440-02-0**	**1.22**		**0.521**
Selenium	**7782-49-2**	**0.166**		**0.00716**
Thallium	**7440-28-0**	**0.00141**	QB-04	**4.71E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0423**
Zinc	7440-66-6	16.6	U	61.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072024-HM
Matrix: Air
Lab ID: 4072929-12
Sample Volume: 1981.882 m³
Filter ID:
Sampled: 07/20/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 06:44

Comments: Q9539684 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0562**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.238**		**0.00769**
Barium	**7440-39-3**	**3.15**		**0.878**
Beryllium	**7440-41-7**	**0.0198**		**0.00263**
Cadmium	7440-43-9	0.0138	U	0.0608
Chromium	**7440-47-3**	**3.01**		**1.81**
Cobalt	**7440-48-4**	**0.454**		**0.0358**
Copper	**7440-50-8**	**42.0**		**2.16**
Lead	**7439-92-1**	**0.448**		**0.176**
Manganese	**7439-96-5**	**11.7**		**1.55**
Molybdenum	**7439-98-7**	**2.33**		**0.295**
Nickel	**7440-02-0**	**1.64**		**0.535**
Selenium	**7782-49-2**	**0.131**		**0.00736**
Thallium	**7440-28-0**	**0.00153**		**4.84E-4**
Vanadium	**7440-62-2**	**1.27**		**0.0434**
Zinc	7440-66-6	16.3	U	63.0

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072024-HM
Matrix: Air
Lab ID: 4072929-13
Sample Volume: 1741.032 m³
Filter ID:
Sampled: 07/20/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/30/24 20:16

Comments: Q9539683 - MS/MSD -Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0818**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.304**		**0.00876**
Barium	**7440-39-3**	**3.93**		**1.00**
Beryllium	**7440-41-7**	**0.0128**		**0.00299**
Cadmium	7440-43-9	0.0189	U	0.0692
Chromium	**7440-47-3**	**3.16**		**2.07**
Cobalt	**7440-48-4**	**0.421**		**0.0407**
Copper	**7440-50-8**	**39.3**		**2.46**
Lead	**7439-92-1**	**0.834**		**0.200**
Manganese	**7439-96-5**	**13.8**		**1.77**
Molybdenum	**7439-98-7**	**2.28**		**0.335**
Nickel	**7440-02-0**	**1.31**		**0.609**
Selenium	**7782-49-2**	**0.157**		**0.00837**
Thallium	**7440-28-0**	**0.00142**		**5.50E-4**
Vanadium	**7440-62-2**	**1.30**		**0.0494**
Zinc	7440-66-6	17.9	U	71.8

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-072024-HM
Matrix: Air
Lab ID: 4072929-14
Sample Volume: 1880.865 m³
Filter ID:
Sampled: 07/20/24 00:00
Received: 07/29/24 10:35
Analysis Date: 07/31/24 06:59

Comments: Q9539678 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00697	SL, U	0.0334
Arsenic	7440-38-2	0.00441	U	0.00811
Barium	7440-39-3	0.604	U	0.926
Beryllium	7440-41-7	0.00119	U	0.00277
Cadmium	7440-43-9	0.00221	U	0.0641
Chromium	7440-47-3	1.53	U	1.91
Cobalt	7440-48-4	0.0266	U	0.0377
Copper	7440-50-8	0.654	U	2.28
Lead	7439-92-1	0.0611	U	0.185
Manganese	7439-96-5	0.229	U	1.63
Molybdenum	7439-98-7	0.271	U	0.311
Nickel	7440-02-0	0.274	U	0.564
Selenium	7782-49-2	8.79E-4	U	0.00775
Thallium	7440-28-0	1.42E-4	U	5.10E-4
Vanadium	7440-62-2	0.0211	U	0.0458
Zinc	7440-66-6	4.25	U	66.4

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-072024-HM
Matrix: Air
Lab ID: 4072929-15
Sample Volume: 1880.865 m³
Filter ID:
Sampled: 07/20/24 00:00
Received: 07/29/24 10:35
Analysis Date: 07/31/24 07:13

Comments: Q9539078 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0112	SL, U	0.0334
Arsenic	7440-38-2	0.00337	U	0.00811
Barium	7440-39-3	0.471	U	0.926
Beryllium	7440-41-7	9.41E-4	U	0.00277
Cadmium	7440-43-9	0.00101	U	0.0641
Chromium	7440-47-3	1.32	U	1.91
Cobalt	7440-48-4	0.0254	U	0.0377
Copper	7440-50-8	0.397	U	2.28
Lead	7439-92-1	0.0388	U	0.185
Manganese	7439-96-5	0.160	U	1.63
Molybdenum	7439-98-7	0.198	U	0.311
Nickel	7440-02-0	0.328	U	0.564
Selenium	7782-49-2	8.36E-4	U	0.00775
Thallium	7440-28-0	1.03E-4	U	5.10E-4
Vanadium	7440-62-2	0.0229	U	0.0458
Zinc	7440-66-6	2.95	U	66.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072124-HM
Matrix: Air
Lab ID: 4072929-16
Sample Volume: 1892.741 m³
Filter ID:
Sampled: 07/21/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 07:26

Comments: Q9539682 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0517**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.550**		**0.00805**
Barium	**7440-39-3**	**5.26**		**0.920**
Beryllium	**7440-41-7**	**0.0210**		**0.00275**
Cadmium	7440-43-9	0.0299	U	0.0637
Chromium	**7440-47-3**	**3.97**		**1.90**
Cobalt	**7440-48-4**	**0.597**		**0.0375**
Copper	**7440-50-8**	**235**		**2.26**
Lead	**7439-92-1**	**0.564**		**0.184**
Manganese	**7439-96-5**	**18.4**		**1.62**
Molybdenum	**7439-98-7**	**18.0**		**0.309**
Nickel	**7440-02-0**	**1.71**		**0.560**
Selenium	**7782-49-2**	**0.260**		**0.00770**
Thallium	**7440-28-0**	**0.00299**		**5.06E-4**
Vanadium	**7440-62-2**	**2.29**		**0.0455**
Zinc	7440-66-6	10.7	U	66.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072124-HM
Matrix: Air
Lab ID: 4072929-17
Sample Volume: 2113.073 m³
Filter ID:
Sampled: 07/21/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 07:44

Comments: Q9539679 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.714**		**0.00721**
Barium	**7440-39-3**	**6.44**		**0.824**
Beryllium	**7440-41-7**	**0.0308**		**0.00246**
Cadmium	7440-43-9	0.0362	U	0.0571
Chromium	**7440-47-3**	**3.35**		**1.70**
Cobalt	**7440-48-4**	**0.694**		**0.0336**
Copper	**7440-50-8**	**38.8**		**2.03**
Lead	**7439-92-1**	**2.00**		**0.165**
Manganese	**7439-96-5**	**23.2**		**1.46**
Molybdenum	**7439-98-7**	**2.07**		**0.276**
Nickel	**7440-02-0**	**2.11**		**0.502**
Selenium	**7782-49-2**	**0.304**		**0.00690**
Thallium	**7440-28-0**	**0.00261**		**4.54E-4**
Vanadium	**7440-62-2**	**2.57**		**0.0407**
Zinc	7440-66-6	19.7	U	59.1

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072124-HM
Matrix: Air
Lab ID: 4072929-18
Sample Volume: 1873.011 m³
Filter ID:
Sampled: 07/21/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 08:00

Comments: Q9539677 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0553**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.264**		**0.00814**
Barium	**7440-39-3**	**3.22**		**0.929**
Beryllium	**7440-41-7**	**0.0139**		**0.00278**
Cadmium	7440-43-9	0.0359	U	0.0644
Chromium	**7440-47-3**	**2.57**		**1.92**
Cobalt	**7440-48-4**	**0.327**		**0.0379**
Copper	**7440-50-8**	**61.4**		**2.28**
Lead	**7439-92-1**	**0.775**		**0.186**
Manganese	**7439-96-5**	**9.28**		**1.64**
Molybdenum	**7439-98-7**	**3.13**		**0.312**
Nickel	**7440-02-0**	**1.37**		**0.566**
Selenium	**7782-49-2**	**0.247**		**0.00778**
Thallium	**7440-28-0**	**0.00217**		**5.12E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0460**
Zinc	7440-66-6	28.7	U	66.7

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072124-HM
Matrix: Air
Lab ID: 4072929-19
Sample Volume: 1795.017 m³
Filter ID:
Sampled: 07/21/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 08:16

Comments: Q9539079 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0930**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.394**		**0.00849**
Barium	**7440-39-3**	**4.20**		**0.970**
Beryllium	**7440-41-7**	**0.0123**		**0.00290**
Cadmium	7440-43-9	0.0229	U	0.0672
Chromium	**7440-47-3**	**2.70**		**2.00**
Cobalt	**7440-48-4**	**0.371**		**0.0395**
Copper	**7440-50-8**	**27.9**		**2.38**
Lead	**7439-92-1**	**0.851**		**0.194**
Manganese	**7439-96-5**	**13.2**		**1.71**
Molybdenum	**7439-98-7**	**1.75**		**0.325**
Nickel	**7440-02-0**	**1.31**		**0.591**
Selenium	**7782-49-2**	**0.259**		**0.00812**
Thallium	**7440-28-0**	**0.00231**		**5.34E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0479**
Zinc	7440-66-6	14.0	U	69.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072224-HM **Lab ID:** 4072929-20 **Sampled:** 07/22/24 23:59
Matrix: Air **Sample Volume:** 1901.456 m³ **Received:** 07/29/24 10:35
Filter ID: **Analysis Date:** 07/31/24 08:33

Comments: Q9539077 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0622**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.607**		**0.00802**
Barium	**7440-39-3**	**7.29**		**0.916**
Beryllium	**7440-41-7**	**0.0334**		**0.00274**
Cadmium	7440-43-9	0.0264	U	0.0634
Chromium	**7440-47-3**	**6.27**		**1.89**
Cobalt	**7440-48-4**	**1.22**		**0.0373**
Copper	**7440-50-8**	**241**		**2.25**
Lead	**7439-92-1**	**0.565**		**0.183**
Manganese	**7439-96-5**	**30.2**		**1.62**
Molybdenum	**7439-98-7**	**16.0**		**0.307**
Nickel	**7440-02-0**	**3.71**		**0.558**
Selenium	**7782-49-2**	**0.306**		**0.00767**
Thallium	**7440-28-0**	**0.00255**		**5.04E-4**
Vanadium	**7440-62-2**	**4.04**		**0.0453**
Zinc	7440-66-6	11.3	U	65.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072224-HM
Matrix: Air
Lab ID: 4072929-21
Sample Volume: 2116.602 m³
Filter ID:
Sampled: 07/22/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 08:51

Comments: Q9539074 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.780**		**0.00720**
Barium	**7440-39-3**	**7.97**		**0.822**
Beryllium	**7440-41-7**	**0.0189**		**0.00246**
Cadmium	7440-43-9	0.0371	U	0.0570
Chromium	**7440-47-3**	**2.75**		**1.70**
Cobalt	**7440-48-4**	**0.494**		**0.0335**
Copper	**7440-50-8**	**31.8**		**2.02**
Lead	**7439-92-1**	**1.52**		**0.164**
Manganese	**7439-96-5**	**15.6**		**1.45**
Molybdenum	**7439-98-7**	**2.13**		**0.276**
Nickel	**7440-02-0**	**1.63**		**0.501**
Selenium	**7782-49-2**	**0.291**		**0.00689**
Thallium	**7440-28-0**	**0.00228**		**4.53E-4**
Vanadium	**7440-62-2**	**1.93**		**0.0407**
Zinc	7440-66-6	19.7	U	59.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072224-HM
Matrix: Air
Lab ID: 4072929-22
Sample Volume: 1777.989 m³
Filter ID:
Sampled: 07/22/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 10:19

Comments: Q9539073 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0553**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.210**		**0.00857**
Barium	**7440-39-3**	**2.97**		**0.979**
Beryllium	**7440-41-7**	**0.0246**		**0.00293**
Cadmium	7440-43-9	0.0194	U	0.0678
Chromium	**7440-47-3**	**2.76**		**2.02**
Cobalt	**7440-48-4**	**0.422**		**0.0399**
Copper	**7440-50-8**	**44.5**		**2.41**
Lead	**7439-92-1**	**0.483**		**0.196**
Manganese	**7439-96-5**	**10.7**		**1.73**
Molybdenum	**7439-98-7**	**3.27**		**0.329**
Nickel	**7440-02-0**	**1.28**		**0.597**
Selenium	**7782-49-2**	**0.225**		**0.00820**
Thallium	**7440-28-0**	**0.00208**		**5.39E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0484**
Zinc	7440-66-6	12.5	U	70.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072224-HM
Matrix: Air
Lab ID: 4072929-23
Sample Volume: 1938.417 m³
Filter ID:
Sampled: 07/22/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 10:37

Comments: Q9539071 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0957**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.478**		**0.00786**
Barium	**7440-39-3**	**3.51**		**0.898**
Beryllium	**7440-41-7**	**0.0143**		**0.00269**
Cadmium	7440-43-9	0.0252	U	0.0622
Chromium	**7440-47-3**	**2.78**		**1.85**
Cobalt	**7440-48-4**	**0.413**		**0.0366**
Copper	**7440-50-8**	**27.6**		**2.21**
Lead	**7439-92-1**	**1.01**		**0.180**
Manganese	**7439-96-5**	**13.6**		**1.59**
Molybdenum	**7439-98-7**	**1.68**		**0.301**
Nickel	**7440-02-0**	**1.33**		**0.547**
Selenium	**7782-49-2**	**0.240**		**0.00752**
Thallium	**7440-28-0**	**0.00213**		**4.94E-4**
Vanadium	**7440-62-2**	**1.27**		**0.0444**
Zinc	7440-66-6	14.9	U	64.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-072224-HM
Matrix: Air
Lab ID: 4072929-24
Sample Volume: 1901.456 m³
Filter ID:
Sampled: 07/22/24 00:00
Received: 07/29/24 10:35
Analysis Date: 07/31/24 10:53

Comments: Q9539062 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0108	SL, U	0.0330
Arsenic	7440-38-2	0.00651	U	0.00802
Barium	7440-39-3	0.483	U	0.916
Beryllium	7440-41-7	9.28E-4	U	0.00274
Cadmium	7440-43-9	0.00127	U	0.0634
Chromium	7440-47-3	1.29	U	1.89
Cobalt	7440-48-4	0.0244	U	0.0373
Copper	7440-50-8	0.364	U	2.25
Lead	7439-92-1	0.0369	U	0.183
Manganese	7439-96-5	0.233	U	1.62
Molybdenum	7439-98-7	0.196	U	0.307
Nickel	7440-02-0	0.299	U	0.558
Selenium	7782-49-2	0.00440	U	0.00767
Thallium	7440-28-0	1.04E-4	U	5.04E-4
Vanadium	7440-62-2	0.0289	U	0.0453
Zinc	7440-66-6	6.44	U	65.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072324-HM
Matrix: Air
Lab ID: 4072929-25
Sample Volume: 1894.326 m³
Filter ID:
Sampled: 07/23/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 11:07

Comments: Q9539070 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.190**	SL	**0.0332**
Arsenic	**7440-38-2**	**6.52**		**0.00805**
Barium	**7440-39-3**	**20.4**		**0.919**
Beryllium	**7440-41-7**	**0.0725**		**0.00275**
Cadmium	**7440-43-9**	**0.0991**		**0.0636**
Chromium	**7440-47-3**	**13.7**		**1.90**
Cobalt	**7440-48-4**	**3.19**		**0.0374**
Copper	**7440-50-8**	**175**		**2.26**
Lead	**7439-92-1**	**1.07**		**0.184**
Manganese	**7439-96-5**	**83.5**		**1.62**
Molybdenum	**7439-98-7**	**10.7**		**0.308**
Nickel	**7440-02-0**	**5.88**		**0.560**
Selenium	**7782-49-2**	**0.412**		**0.00770**
Thallium	**7440-28-0**	**0.00454**		**5.06E-4**
Vanadium	**7440-62-2**	**9.42**		**0.0454**
Zinc	7440-66-6	21.0	U	66.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072324-HM
Matrix: Air
Lab ID: 4072929-26
Sample Volume: 2095.676 m³
Filter ID:
Sampled: 07/23/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 11:26

Comments: Q9539068 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.780**		**0.00727**
Barium	**7440-39-3**	**8.62**		**0.831**
Beryllium	**7440-41-7**	**0.0384**		**0.00248**
Cadmium	7440-43-9	0.0296	U	0.0575
Chromium	**7440-47-3**	**5.91**		**1.72**
Cobalt	**7440-48-4**	**1.42**		**0.0338**
Copper	**7440-50-8**	**41.9**		**2.04**
Lead	**7439-92-1**	**1.77**		**0.166**
Manganese	**7439-96-5**	**37.2**		**1.47**
Molybdenum	**7439-98-7**	**2.78**		**0.279**
Nickel	**7440-02-0**	**3.86**		**0.506**
Selenium	**7782-49-2**	**0.252**		**0.00696**
Thallium	**7440-28-0**	**0.00235**		**4.57E-4**
Vanadium	**7440-62-2**	**4.44**		**0.0411**
Zinc	7440-66-6	19.1	U	59.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072324-HM
Matrix: Air
Lab ID: 4072929-27
Sample Volume: 1919.988 m³
Filter ID:
Sampled: 07/23/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 11:41

Comments: Q9539067 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0517**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.307**		**0.00794**
Barium	**7440-39-3**	**4.26**		**0.907**
Beryllium	**7440-41-7**	**0.0497**		**0.00271**
Cadmium	7440-43-9	0.0149	U	0.0628
Chromium	**7440-47-3**	**4.01**		**1.87**
Cobalt	**7440-48-4**	**0.798**		**0.0369**
Copper	**7440-50-8**	**53.7**		**2.23**
Lead	**7439-92-1**	**0.647**		**0.181**
Manganese	**7439-96-5**	**17.7**		**1.60**
Molybdenum	**7439-98-7**	**3.60**		**0.304**
Nickel	**7440-02-0**	**2.25**		**0.553**
Selenium	**7782-49-2**	**0.190**		**0.00759**
Thallium	**7440-28-0**	**0.00165**		**4.99E-4**
Vanadium	**7440-62-2**	**1.77**		**0.0448**
Zinc	7440-66-6	12.7	U	65.1

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072324-HM
Matrix: Air
Lab ID: 4072929-28
Sample Volume: 1837.581 m³
Filter ID:
Sampled: 07/23/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 11:56

Comments: Q9539064 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0886**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.446**		**0.00830**
Barium	**7440-39-3**	**4.06**		**0.947**
Beryllium	**7440-41-7**	**0.0143**		**0.00283**
Cadmium	7440-43-9	0.0161	U	0.0656
Chromium	**7440-47-3**	**2.83**		**1.96**
Cobalt	**7440-48-4**	**0.534**		**0.0386**
Copper	**7440-50-8**	**28.2**		**2.33**
Lead	**7439-92-1**	**1.03**		**0.189**
Manganese	**7439-96-5**	**14.9**		**1.67**
Molybdenum	**7439-98-7**	**2.04**		**0.318**
Nickel	**7440-02-0**	**1.35**		**0.577**
Selenium	**7782-49-2**	**0.163**		**0.00793**
Thallium	**7440-28-0**	**0.00145**		**5.22E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0468**
Zinc	7440-66-6	13.6	U	68.0

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072424-HM
Matrix: Air
Lab ID: 4072929-29
Sample Volume: 1876.57 m³
Filter ID:
Sampled: 07/24/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 12:11

Comments: Q9539060 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0628**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.834**		**0.00812**
Barium	**7440-39-3**	**6.58**		**0.928**
Beryllium	**7440-41-7**	**0.0257**		**0.00277**
Cadmium	7440-43-9	0.0185	U	0.0642
Chromium	**7440-47-3**	**6.33**		**1.92**
Cobalt	**7440-48-4**	**1.30**		**0.0378**
Copper	**7440-50-8**	**197**		**2.28**
Lead	**7439-92-1**	**0.371**		**0.186**
Manganese	**7439-96-5**	**29.5**		**1.64**
Molybdenum	**7439-98-7**	**13.2**		**0.311**
Nickel	**7440-02-0**	**3.40**		**0.565**
Selenium	**7782-49-2**	**0.214**		**0.00777**
Thallium	**7440-28-0**	**0.00144**		**5.11E-4**
Vanadium	**7440-62-2**	**3.90**		**0.0459**
Zinc	7440-66-6	14.4	U	66.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072424-HM
Matrix: Air
Lab ID: 4072929-30
Sample Volume: 2047.944 m³
Filter ID:
Sampled: 07/24/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 12:26

Comments: Q9539056 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.123**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.746**		**0.00744**
Barium	**7440-39-3**	**6.22**		**0.850**
Beryllium	**7440-41-7**	**0.0218**		**0.00254**
Cadmium	7440-43-9	0.0250	U	0.0589
Chromium	**7440-47-3**	**3.49**		**1.76**
Cobalt	**7440-48-4**	**0.672**		**0.0346**
Copper	**7440-50-8**	**42.8**		**2.09**
Lead	**7439-92-1**	**2.77**		**0.170**
Manganese	**7439-96-5**	**20.4**		**1.50**
Molybdenum	**7439-98-7**	**2.61**		**0.285**
Nickel	**7440-02-0**	**1.86**		**0.518**
Selenium	**7782-49-2**	**0.209**		**0.00712**
Thallium	**7440-28-0**	**0.00125**		**4.68E-4**
Vanadium	**7440-62-2**	**2.37**		**0.0420**
Zinc	7440-66-6	21.6	U	61.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072424-HM
Matrix: Air
Lab ID: 4072929-31
Sample Volume: 1941.932 m³
Filter ID:
Sampled: 07/24/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 13:38

Comments: Q9539054 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0512**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.295**		**0.00785**
Barium	**7440-39-3**	**3.47**		**0.896**
Beryllium	**7440-41-7**	**0.0315**		**0.00268**
Cadmium	7440-43-9	0.00911	U	0.0621
Chromium	**7440-47-3**	**3.10**		**1.85**
Cobalt	**7440-48-4**	**0.520**		**0.0365**
Copper	**7440-50-8**	**46.4**		**2.20**
Lead	**7439-92-1**	**0.731**		**0.179**
Manganese	**7439-96-5**	**12.2**		**1.58**
Molybdenum	**7439-98-7**	**3.36**		**0.301**
Nickel	**7440-02-0**	**1.52**		**0.546**
Selenium	**7782-49-2**	**0.156**		**0.00751**
Thallium	**7440-28-0**	**9.44E-4**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0443**
Zinc	7440-66-6	13.5	U	64.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072424-HM
Matrix: Air
Lab ID: 4072929-32
Sample Volume: 1920.663 m³
Filter ID:
Sampled: 07/24/24 23:59
Received: 07/29/24 10:35
Analysis Date: 07/31/24 14:08

Comments: Q9539052 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0759**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.426**		**0.00794**
Barium	**7440-39-3**	**3.80**		**0.906**
Beryllium	**7440-41-7**	**0.0154**		**0.00271**
Cadmium	7440-43-9	0.0173	U	0.0628
Chromium	**7440-47-3**	**3.00**		**1.87**
Cobalt	**7440-48-4**	**0.468**		**0.0369**
Copper	**7440-50-8**	**36.6**		**2.23**
Lead	**7439-92-1**	**1.07**		**0.181**
Manganese	**7439-96-5**	**14.8**		**1.60**
Molybdenum	**7439-98-7**	**2.37**		**0.304**
Nickel	**7440-02-0**	**1.44**		**0.552**
Selenium	**7782-49-2**	**0.167**		**0.00759**
Thallium	**7440-28-0**	**9.96E-4**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0448**
Zinc	7440-66-6	15.3	U	65.1

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-072424-HM
Matrix: Air
Lab ID: 4072929-33
Sample Volume: 1876.57 m³
Filter ID:
Sampled: 07/24/24 00:00
Received: 07/29/24 10:35
Analysis Date: 07/31/24 14:24

Comments: Q9539049 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0118	SL, U	0.0335
Arsenic	**7440-38-2**	**0.00955**	FB-01	**0.00812**
Barium	7440-39-3	0.581	U	0.928
Beryllium	7440-41-7	0.00100	U	0.00277
Cadmium	7440-43-9	0.00129	U	0.0642
Chromium	7440-47-3	1.36	U	1.92
Cobalt	7440-48-4	0.0275	U	0.0378
Copper	7440-50-8	0.829	U	2.28
Lead	7439-92-1	0.0437	U	0.186
Manganese	7439-96-5	0.197	U	1.64
Molybdenum	7439-98-7	0.197	U	0.311
Nickel	7440-02-0	0.326	U	0.565
Selenium	7782-49-2	0.00197	U	0.00777
Thallium	7440-28-0	1.24E-4	QB-04, U	5.11E-4
Vanadium	7440-62-2	0.0300	U	0.0459
Zinc	7440-66-6	4.63	U	66.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Blank (2407110-CCB1)				Prepared & Analyzed: 07/30/24						
Antimony	0.837		ng/l							
Arsenic	2.52		ng/l							
Barium	4.86		ng/l							
Beryllium	0.344		ng/l							
Cadmium	0.322		ng/l							
Chromium	3.76		ng/l							
Cobalt	0.896		ng/l							
Copper	73.8		ng/l							
Lead	3.45		ng/l							
Manganese	8.79		ng/l							
Molybdenum	26.0		ng/l							
Nickel	0.588		ng/l							
Selenium	4.79		ng/l							
Thallium	1.31		ng/l							
Vanadium	12.2		ng/l							
Zinc	-572		ng/l							U
Calibration Blank (2407110-CCB2)				Prepared & Analyzed: 07/30/24						
Antimony	0.257		ng/l							
Arsenic	-2.47		ng/l							U
Barium	4.60		ng/l							
Beryllium	0.377		ng/l							
Cadmium	0.359		ng/l							
Chromium	3.03		ng/l							
Cobalt	0.613		ng/l							
Copper	86.4		ng/l							
Lead	3.32		ng/l							
Manganese	9.64		ng/l							
Molybdenum	7.28		ng/l							
Nickel	0.768		ng/l							
Selenium	-1.47		ng/l							U
Thallium	1.07		ng/l							
Vanadium	-3.33		ng/l							U
Zinc	-577		ng/l							U
Calibration Blank (2407110-CCB3)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	0.123		ng/l							
Arsenic	-1.60		ng/l							U
Barium	3.31		ng/l							
Beryllium	0.0887		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Blank (2407110-CCB3) Contin				Prepared: 07/30/24 Analyzed: 07/31/24						
Cadmium	0.272		ng/l							
Chromium	2.65		ng/l							
Cobalt	0.329		ng/l							
Copper	90.6		ng/l							
Lead	2.60		ng/l							
Manganese	3.70		ng/l							
Molybdenum	8.04		ng/l							
Nickel	0.352		ng/l							
Selenium	3.60		ng/l							
Thallium	1.42		ng/l							QB-04
Vanadium	-14.1		ng/l							U
Zinc	-584		ng/l							U
Calibration Blank (2407110-CCB4)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	0.312		ng/l							
Arsenic	-2.28		ng/l							U
Barium	4.76		ng/l							
Beryllium	0.115		ng/l							
Cadmium	0.336		ng/l							
Chromium	3.95		ng/l							
Cobalt	0.591		ng/l							
Copper	108		ng/l							
Lead	2.85		ng/l							
Manganese	6.68		ng/l							
Molybdenum	7.23		ng/l							
Nickel	0.465		ng/l							
Selenium	0.809		ng/l							
Thallium	1.05		ng/l							
Vanadium	-10.9		ng/l							U
Zinc	-586		ng/l							U
Calibration Blank (2407110-CCB5)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	-0.0768		ng/l							U
Arsenic	1.69		ng/l							
Barium	2.48		ng/l							
Beryllium	-0.345		ng/l							U
Cadmium	0.204		ng/l							
Chromium	2.69		ng/l							
Cobalt	0.222		ng/l							
Copper	92.7		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Blank (2407110-CCB5) Contin				Prepared: 07/30/24 Analyzed: 07/31/24						
Lead	1.11		ng/l							
Manganese	3.65		ng/l							
Molybdenum	8.03		ng/l							
Nickel	1.88		ng/l							
Selenium	0.544		ng/l							
Thallium	1.01		ng/l							
Vanadium	-10.7		ng/l							U
Zinc	-24.6		ng/l							U
Calibration Blank (2407110-CCB6)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	0.234		ng/l							
Arsenic	7.14		ng/l							
Barium	1.39		ng/l							
Beryllium	-0.355		ng/l							U
Cadmium	0.185		ng/l							
Chromium	1.34		ng/l							
Cobalt	0.202		ng/l							
Copper	58.6		ng/l							
Lead	1.01		ng/l							
Manganese	1.53		ng/l							
Molybdenum	7.59		ng/l							
Nickel	-0.0780		ng/l							U
Selenium	1.27		ng/l							
Thallium	0.913		ng/l							
Vanadium	-11.0		ng/l							U
Zinc	-598		ng/l							U
Calibration Blank (2407110-CCB7)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	0.899		ng/l							
Arsenic	2.37		ng/l							
Barium	7.04		ng/l							
Beryllium	0.395		ng/l							
Cadmium	0.542		ng/l							
Chromium	5.46		ng/l							
Cobalt	1.36		ng/l							
Copper	199		ng/l							
Lead	10.2		ng/l							
Manganese	15.2		ng/l							
Molybdenum	13.2		ng/l							
Nickel	2.50		ng/l							

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Blank (2407110-CCB7) Contin				Prepared: 07/30/24 Analyzed: 07/31/24						
Selenium	8.18		ng/l							
Thallium	2.42		ng/l							QB-04
Vanadium	-21.6		ng/l							U
Zinc	-577		ng/l							U
Calibration Check (2407110-CCV1)				Prepared & Analyzed: 07/30/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2407110-CCV2)				Prepared & Analyzed: 07/30/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	49800		ng/l	50000		99.6	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	478		ng/l	500.00		95.7	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	518000		ng/l	500000		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Check (2407110-CCV3)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	492000		ng/l	500000		98.3	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2407110-CCV4)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	53200		ng/l	50000		106	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2407110-CCV5)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Check (2407110-CCV5) Contin					Prepared: 07/30/24 Analyzed: 07/31/24					
Cadmium	21300		ng/l	20000		106	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	538000		ng/l	500000		108	90-110			
Calibration Check (2407110-CCV6)					Prepared: 07/30/24 Analyzed: 07/31/24					
Antimony	21100		ng/l	20000		106	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5300		ng/l	5000.0		106	90-110			
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2407110-CCV7)					Prepared: 07/30/24 Analyzed: 07/31/24					
Antimony	21400		ng/l	20000		107	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	5220		ng/l	5000.0		104	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Calibration Check (2407110-CCV7) Contin				Prepared: 07/30/24 Analyzed: 07/31/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	54600		ng/l	50000		109	90-110			
Nickel	127000		ng/l	120000		105	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.7	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	539000		ng/l	500000		108	90-110			
High Cal Check (2407110-HCV1)				Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	41400		ng/l	40000		104	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	417000		ng/l	400000		104	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	41100		ng/l	40000		103	95-105			
Chromium	482000		ng/l	480000		100	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.04E6		ng/l	4.0000E6		101	95-105			
Lead	405000		ng/l	400000		101	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	106000		ng/l	100000		106	95-105			LJ, QX
Nickel	242000		ng/l	240000		101	95-105			
Selenium	39400		ng/l	40000		98.6	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Vanadium	40200		ng/l	40000		100	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2407110-ICB1)				Prepared & Analyzed: 07/30/24						
Antimony	0.536		ng/l							
Arsenic	-7.18		ng/l							U
Barium	3.40		ng/l							
Beryllium	0.0130		ng/l							
Cadmium	0.195		ng/l							
Chromium	1.91		ng/l							
Cobalt	0.291		ng/l							
Copper	117		ng/l							
Lead	1.54		ng/l							
Manganese	7.62		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-3.14		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Initial Cal Blank (2407110-ICB1) Continu				Prepared & Analyzed: 07/30/24						
Selenium	0.103		ng/l							
Thallium	0.931		ng/l							
Vanadium	37.2		ng/l							
Zinc	-540		ng/l							U
Initial Cal Check (2407110-ICV1)				Prepared & Analyzed: 07/30/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	19200		ng/l	20000		96.2	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4670		ng/l	5000.0		93.4	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		101	90-110			
Cobalt	47600		ng/l	50000		95.3	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	494000		ng/l	500000		98.9	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	118000		ng/l	120000		97.9	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2407110-IFA1)				Prepared & Analyzed: 07/30/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	327000		ng/l	300000		109	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407110 - B4G3008										
Interference Check B (2407110-IFB1)					Prepared & Analyzed: 07/30/24					
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4750		ng/l	5000.0		95.1	80-120			
Cadmium	19800		ng/l	20000		99.0	80-120			
Chromium	232000		ng/l	240000		96.6	80-120			
Cobalt	49800		ng/l	50000		99.6	80-120			
Copper	1.92E6		ng/l	2.0000E6		96.1	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	373000		ng/l	350000		107	80-120			
Nickel	116000		ng/l	120000		97.0	80-120			
Selenium	19300		ng/l	20000		96.3	80-120			
Thallium	520		ng/l	500.00		104	80-120			
Vanadium	19100		ng/l	20000		95.7	80-120			
Zinc	478000		ng/l	500000		95.5	80-120			
Batch B4G3008 - ICP-MS Extraction										
Blank (B4G3008-BLK1)					Prepared & Analyzed: 07/30/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G3008-BS1)					Prepared & Analyzed: 07/30/24					
Antimony	0.865	0.0386	ng/m³ Air	1.3829		62.5	80-120			SL
Arsenic	2.76	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
LCS (B4G3008-BS1) Continued					Prepared & Analyzed: 07/30/24					
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		97.2	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.6	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.5	80-120			
Copper	30.3	2.63	ng/m³ Air	27.658		109	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.59	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.26	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.8	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.84	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	93.8	76.8	ng/m³ Air	82.975		113	80-120			
LCS (B4G3008-BS2)					Prepared & Analyzed: 07/30/24					
Antimony	0.839	0.0386	ng/m³ Air	1.3829		60.7	80-120			SL
Arsenic	2.75	0.00937	ng/m³ Air	2.7658		99.4	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.2	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		97.1	80-120			
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.51	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.54	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.6	80-120			
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		100	80-120			QB-04
Vanadium	2.83	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	91.4	76.8	ng/m³ Air	82.975		110	80-120			
Duplicate (B4G3008-DUP1)		**Source: 4072929-13**			Prepared & Analyzed: 07/30/24					
Antimony	0.0855	0.0361	ng/m³ Air		0.0818			4.39	10	SL
Arsenic	0.352	0.00876	ng/m³ Air		0.304			14.6	10	
Barium	4.00	1.00	ng/m³ Air		3.93			1.62	10	
Beryllium	0.0127	0.00299	ng/m³ Air		0.0128			1.11	10	
Cadmium	ND	0.0692	ng/m³ Air		ND				10	U
Chromium	3.31	2.07	ng/m³ Air		3.16			4.63	10	
Cobalt	0.408	0.0407	ng/m³ Air		0.421			3.14	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Duplicate (B4G3008-DUP1) Continued			**Source: 4072929-13**		Prepared & Analyzed: 07/30/24					
Copper	37.8	2.46	ng/m³ Air		39.3			4.00	10	
Lead	0.798	0.200	ng/m³ Air		0.834			4.45	10	
Manganese	13.5	1.77	ng/m³ Air		13.8			2.24	10	
Molybdenum	2.24	0.335	ng/m³ Air		2.28			1.93	10	
Nickel	1.40	0.609	ng/m³ Air		1.31			6.16	10	
Selenium	0.167	0.00837	ng/m³ Air		0.157			6.54	10	
Thallium	0.00140	5.50E-4	ng/m³ Air		0.00142			1.75	10	
Vanadium	1.30	0.0494	ng/m³ Air		1.30			0.483	10	
Zinc	ND	71.8	ng/m³ Air		ND				10	U
Duplicate (B4G3008-DUP2)			**Source: 4072929-06**		Prepared: 07/30/24 Analyzed: 07/31/24					
Antimony	0.0878	0.0336	ng/m³ Air		0.0844			3.96	10	SL
Arsenic	2.01	0.00816	ng/m³ Air		2.01			0.0586	10	
Barium	8.78	0.932	ng/m³ Air		8.18			7.04	10	
Beryllium	0.0360	0.00279	ng/m³ Air		0.0355			1.50	10	
Cadmium	ND	0.0646	ng/m³ Air		ND				10	U
Chromium	7.94	1.93	ng/m³ Air		7.45			6.38	10	
Cobalt	1.65	0.0380	ng/m³ Air		1.59			4.15	10	
Copper	146	2.29	ng/m³ Air		143			2.39	10	
Lead	0.627	0.186	ng/m³ Air		0.608			3.00	10	
Manganese	38.9	1.65	ng/m³ Air		36.8			5.71	10	
Molybdenum	5.41	0.313	ng/m³ Air		5.30			2.11	10	
Nickel	4.62	0.568	ng/m³ Air		4.34			6.25	10	
Selenium	0.237	0.00781	ng/m³ Air		0.232			2.26	10	
Thallium	0.00189	5.13E-4	ng/m³ Air		0.00182			3.89	10	QB-04
Vanadium	4.59	0.0461	ng/m³ Air		4.35			5.31	10	
Zinc	ND	66.9	ng/m³ Air		ND				10	U
Duplicate (B4G3008-DUP3)			**Source: 4072929-21**		Prepared: 07/30/24 Analyzed: 07/31/24					
Antimony	0.111	0.0297	ng/m³ Air		0.111			0.0349	10	SL
Arsenic	0.776	0.00720	ng/m³ Air		0.780			0.541	10	
Barium	7.91	0.822	ng/m³ Air		7.97			0.796	10	
Beryllium	0.0179	0.00246	ng/m³ Air		0.0189			5.31	10	
Cadmium	ND	0.0570	ng/m³ Air		ND				10	U
Chromium	2.73	1.70	ng/m³ Air		2.75			0.759	10	
Cobalt	0.492	0.0335	ng/m³ Air		0.494			0.449	10	
Copper	31.7	2.02	ng/m³ Air		31.8			0.277	10	
Lead	1.51	0.164	ng/m³ Air		1.52			0.283	10	
Manganese	15.3	1.45	ng/m³ Air		15.6			1.48	10	
Molybdenum	2.12	0.276	ng/m³ Air		2.13			0.533	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Duplicate (B4G3008-DUP3) Continued		**Source: 4072929-21**		Prepared: 07/30/24 Analyzed: 07/31/24						
Nickel	1.62	0.501	ng/m³ Air		1.63			0.589	10	
Selenium	0.287	0.00689	ng/m³ Air		0.291			1.51	10	
Thallium	0.00220	4.53E-4	ng/m³ Air		0.00228			3.25	10	
Vanadium	1.92	0.0407	ng/m³ Air		1.93			0.926	10	
Zinc	ND	59.0	ng/m³ Air		ND				10	U
Duplicate (B4G3008-DUP4)		**Source: 4072929-31**		Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	0.0498	0.0323	ng/m³ Air		0.0512			2.85	10	SL
Arsenic	0.292	0.00785	ng/m³ Air		0.295			0.995	10	
Barium	3.44	0.896	ng/m³ Air		3.47			0.783	10	
Beryllium	0.0319	0.00268	ng/m³ Air		0.0315			1.13	10	
Cadmium	ND	0.0621	ng/m³ Air		ND				10	U
Chromium	3.04	1.85	ng/m³ Air		3.10			1.92	10	
Cobalt	0.510	0.0365	ng/m³ Air		0.520			1.94	10	
Copper	45.6	2.20	ng/m³ Air		46.4			1.76	10	
Lead	0.721	0.179	ng/m³ Air		0.731			1.47	10	
Manganese	12.0	1.58	ng/m³ Air		12.2			1.72	10	
Molybdenum	3.30	0.301	ng/m³ Air		3.36			1.64	10	
Nickel	1.50	0.546	ng/m³ Air		1.52			1.73	10	
Selenium	0.153	0.00751	ng/m³ Air		0.156			2.17	10	
Thallium	9.04E-4	4.93E-4	ng/m³ Air		9.44E-4			4.41	10	QB-04
Vanadium	1.39	0.0443	ng/m³ Air		1.41			1.43	10	
Zinc	ND	64.3	ng/m³ Air		ND				10	U
Matrix Spike (B4G3008-MS1)		**Source: 4072929-13**		Prepared & Analyzed: 07/30/24						
Antimony	0.681	0.0361	ng/m³ Air	1.2923	0.0818	46.4	80-120			SL
Arsenic	2.81	0.00876	ng/m³ Air	2.5847	0.304	96.9	80-120			
Barium	30.9	1.00	ng/m³ Air	25.847	3.93	104	80-120			
Beryllium	1.23	0.00299	ng/m³ Air	1.2923	0.0128	93.8	80-120			
Cadmium	1.31	0.0692	ng/m³ Air	1.2923	ND	102	80-120			
Chromium	16.4	2.07	ng/m³ Air	12.923	3.16	102	80-120			
Cobalt	1.64	0.0407	ng/m³ Air	1.2923	0.421	94.6	80-120			
Copper	63.1	2.46	ng/m³ Air	25.847	39.3	92.0	80-120			
Lead	13.8	0.200	ng/m³ Air	12.923	0.834	101	80-120			
Manganese	21.3	1.77	ng/m³ Air	7.7540	13.8	97.2	80-120			
Molybdenum	3.43	0.335	ng/m³ Air	1.2923	2.28	88.8	80-120			
Nickel	3.93	0.609	ng/m³ Air	2.5847	1.31	101	80-120			
Selenium	2.67	0.00837	ng/m³ Air	2.5847	0.157	97.2	80-120			
Thallium	0.126	5.50E-4	ng/m³ Air	0.12923	0.00142	96.6	80-120			
Vanadium	3.90	0.0494	ng/m³ Air	2.5847	1.30	100	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Matrix Spike (B4G3008-MS1) Continued Source: 4072929-13 Prepared & Analyzed: 07/30/24										
Zinc	101	71.8	ng/m³ Air	77.540	ND	131	80-120			
Matrix Spike (B4G3008-MS2) Source: 4072929-06 Prepared: 07/30/24 Analyzed: 07/31/24										
Antimony	0.608	0.0336	ng/m³ Air	1.2048	0.0844	43.4	80-120			SL
Arsenic	3.87	0.00816	ng/m³ Air	2.4096	2.01	77.4	80-120			QM-07
Barium	32.2	0.932	ng/m³ Air	24.096	8.18	99.7	80-120			
Beryllium	1.34	0.00279	ng/m³ Air	1.2048	0.0355	108	80-120			
Cadmium	1.20	0.0646	ng/m³ Air	1.2048	ND	99.6	80-120			
Chromium	19.1	1.93	ng/m³ Air	12.048	7.45	96.8	80-120			
Cobalt	2.74	0.0380	ng/m³ Air	1.2048	1.59	95.5	80-120			
Copper	162	2.29	ng/m³ Air	24.096	143	79.9	80-120			
Lead	12.4	0.186	ng/m³ Air	12.048	0.608	98.0	80-120			
Manganese	44.9	1.65	ng/m³ Air	7.2289	36.8	112	80-120			
Molybdenum	6.23	0.313	ng/m³ Air	1.2048	5.30	77.3	80-120			QM-4X
Nickel	6.79	0.568	ng/m³ Air	2.4096	4.34	102	80-120			
Selenium	2.46	0.00781	ng/m³ Air	2.4096	0.232	92.4	80-120			
Thallium	0.111	5.13E-4	ng/m³ Air	0.12048	0.00182	90.2	80-120			QB-04
Vanadium	6.67	0.0461	ng/m³ Air	2.4096	4.35	96.2	80-120			
Zinc	85.6	66.9	ng/m³ Air	72.289	ND	118	80-120			
Matrix Spike Dup (B4G3008-MSD1) Source: 4072929-13 Prepared & Analyzed: 07/30/24										
Antimony	0.693	0.0361	ng/m³ Air	1.2923	0.0818	47.3	80-120	1.76	20	SL
Arsenic	2.86	0.00876	ng/m³ Air	2.5847	0.304	99.1	80-120	1.95	20	
Barium	30.4	1.00	ng/m³ Air	25.847	3.93	103	80-120	1.58	20	
Beryllium	1.28	0.00299	ng/m³ Air	1.2923	0.0128	98.1	80-120	4.41	20	
Cadmium	1.36	0.0692	ng/m³ Air	1.2923	ND	105	80-120	3.24	20	
Chromium	16.7	2.07	ng/m³ Air	12.923	3.16	105	80-120	1.76	20	
Cobalt	1.72	0.0407	ng/m³ Air	1.2923	0.421	101	80-120	4.59	20	
Copper	64.9	2.46	ng/m³ Air	25.847	39.3	99.0	80-120	2.80	20	
Lead	14.3	0.200	ng/m³ Air	12.923	0.834	104	80-120	3.37	20	
Manganese	21.9	1.77	ng/m³ Air	7.7540	13.8	105	80-120	2.82	20	
Molybdenum	3.43	0.335	ng/m³ Air	1.2923	2.28	89.0	80-120	0.0590	20	
Nickel	3.95	0.609	ng/m³ Air	2.5847	1.31	102	80-120	0.380	20	
Selenium	2.66	0.00837	ng/m³ Air	2.5847	0.157	96.8	80-120	0.392	20	
Thallium	0.129	5.50E-4	ng/m³ Air	0.12923	0.00142	98.7	80-120	2.13	20	
Vanadium	3.96	0.0494	ng/m³ Air	2.5847	1.30	103	80-120	1.62	20	
Zinc	103	71.8	ng/m³ Air	77.540	ND	132	80-120	1.35	20	
Matrix Spike Dup (B4G3008-MSD2) Source: 4072929-06 Prepared: 07/30/24 Analyzed: 07/31/24										
Antimony	0.597	0.0336	ng/m³ Air	1.2048	0.0844	42.6	80-120	1.72	20	SL
Arsenic	3.83	0.00816	ng/m³ Air	2.4096	2.01	75.5	80-120	1.15	20	QM-07

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Matrix Spike Dup (B4G3008-MSD2) Conti			**Source: 4072929-06**		Prepared: 07/30/24		Analyzed: 07/31/24			
Barium	32.6	0.932	ng/m³ Air	24.096	8.18	102	80-120	1.36	20	
Beryllium	1.22	0.00279	ng/m³ Air	1.2048	0.0355	98.0	80-120	9.49	20	
Cadmium	1.23	0.0646	ng/m³ Air	1.2048	ND	102	80-120	2.34	20	
Chromium	19.6	1.93	ng/m³ Air	12.048	7.45	101	80-120	2.61	20	
Cobalt	2.77	0.0380	ng/m³ Air	1.2048	1.59	98.6	80-120	1.34	20	
Copper	166	2.29	ng/m³ Air	24.096	143	96.5	80-120	2.43	20	
Lead	12.7	0.186	ng/m³ Air	12.048	0.608	101	80-120	2.51	20	
Manganese	45.2	1.65	ng/m³ Air	7.2289	36.8	117	80-120	0.810	20	
Molybdenum	6.45	0.313	ng/m³ Air	1.2048	5.30	95.4	80-120	3.45	20	
Nickel	6.93	0.568	ng/m³ Air	2.4096	4.34	107	80-120	1.97	20	
Selenium	2.49	0.00781	ng/m³ Air	2.4096	0.232	93.9	80-120	1.42	20	
Thallium	0.114	5.13E-4	ng/m³ Air	0.12048	0.00182	92.9	80-120	2.90	20	QB-04
Vanadium	6.84	0.0461	ng/m³ Air	2.4096	4.35	103	80-120	2.42	20	
Zinc	87.7	66.9	ng/m³ Air	72.289	ND	121	80-120	2.41	20	
Post Spike (B4G3008-PS1)			**Source: 4072929-13**		Prepared & Analyzed: 07/30/24					
Antimony	0.330	0.0361	ng/m³ Air	0.25847	0.0818	95.9	75-125			SL
Arsenic	1.49	0.00876	ng/m³ Air	1.2923	0.304	92.0	75-125			
Barium	6.31	1.00	ng/m³ Air	2.5847	3.93	92.1	75-125			
Beryllium	0.269	0.00299	ng/m³ Air	0.25847	0.0128	99.1	75-125			
Cadmium	0.147	0.0692	ng/m³ Air	0.12923	ND	114	75-125			
Chromium	4.35	2.07	ng/m³ Air	1.2923	3.16	91.9	75-125			
Cobalt	0.653	0.0407	ng/m³ Air	0.25847	0.421	89.4	75-125			
Copper	51.3	2.46	ng/m³ Air	12.923	39.3	93.1	75-125			
Lead	26.2	0.200	ng/m³ Air	25.847	0.834	98.3	75-125			
Manganese	15.9	1.77	ng/m³ Air	2.5847	13.8	83.4	75-125			
Molybdenum	3.42	0.335	ng/m³ Air	1.2923	2.28	87.8	75-125			
Nickel	3.81	0.609	ng/m³ Air	2.5847	1.31	96.5	75-125			
Selenium	1.39	0.00837	ng/m³ Air	1.2923	0.157	95.2	75-125			
Thallium	0.0637	5.50E-4	ng/m³ Air	6.4617E-2	0.00142	96.4	75-125			
Vanadium	2.53	0.0494	ng/m³ Air	1.2923	1.30	94.5	75-125			
Zinc	ND	71.8	ng/m³ Air	25.847	ND		75-125			U
Post Spike (B4G3008-PS2)			**Source: 4072929-06**		Prepared: 07/30/24		Analyzed: 07/31/24			
Antimony	0.320	0.0336	ng/m³ Air	0.24096	0.0844	97.9	75-125			SL
Arsenic	3.07	0.00816	ng/m³ Air	1.2048	2.01	87.7	75-125			
Barium	10.2	0.932	ng/m³ Air	2.4096	8.18	85.0	75-125			
Beryllium	0.330	0.00279	ng/m³ Air	0.24096	0.0355	122	75-125			
Cadmium	0.147	0.0646	ng/m³ Air	0.12048	ND	122	75-125			
Chromium	8.32	1.93	ng/m³ Air	1.2048	7.45	71.9	75-125			A-01a

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Post Spike (B4G3008-PS2) Continued		**Source: 4072929-06**		Prepared: 07/30/24 Analyzed: 07/31/24						
Cobalt	1.76	0.0380	ng/m³ Air	0.24096	1.59	71.1	75-125			A-01a
Copper	151	2.29	ng/m³ Air	12.048	143	67.8	75-125			A-01a
Lead	24.0	0.186	ng/m³ Air	24.096	0.608	97.1	75-125			
Manganese	37.7	1.65	ng/m³ Air	2.4096	36.8	39.4	75-125			A-01a
Molybdenum	6.23	0.313	ng/m³ Air	1.2048	5.30	77.5	75-125			
Nickel	6.53	0.568	ng/m³ Air	2.4096	4.34	90.8	75-125			
Selenium	1.34	0.00781	ng/m³ Air	1.2048	0.232	92.1	75-125			
Thallium	0.0563	5.13E-4	ng/m³ Air	6.0240E-2	0.00182	90.4	75-125			QB-04
Vanadium	5.33	0.0461	ng/m³ Air	1.2048	4.35	81.0	75-125			
Zinc	ND	66.9	ng/m³ Air	24.096	ND		75-125			U
Dilution Check (B4G3008-SRL1)		**Source: 4072929-13**		Prepared & Analyzed: 07/30/24						
Antimony	ND	0.180	ng/m³ Air		ND				10	SL, U
Arsenic	0.303	0.0438	ng/m³ Air		0.304			0.151	10	
Barium	ND	5.00	ng/m³ Air		ND				10	U
Beryllium	ND	0.0150	ng/m³ Air		ND				10	U
Cadmium	ND	0.346	ng/m³ Air		ND				10	U
Chromium	ND	10.3	ng/m³ Air		ND				10	U
Cobalt	0.428	0.204	ng/m³ Air		0.421			1.58	10	
Copper	40.1	12.3	ng/m³ Air		39.3			2.07	10	
Lead	ND	1.00	ng/m³ Air		ND				10	U
Manganese	14.0	8.83	ng/m³ Air		13.8			1.51	10	
Molybdenum	2.29	1.68	ng/m³ Air		2.28			0.482	10	
Nickel	ND	3.05	ng/m³ Air		ND				10	U
Selenium	0.148	0.0419	ng/m³ Air		0.157			5.69	10	
Thallium	0.00306	0.00275	ng/m³ Air		ND			73.0	10	
Vanadium	1.37	0.247	ng/m³ Air		1.30			4.54	10	
Zinc	ND	359	ng/m³ Air		ND				10	U
Dilution Check (B4G3008-SRL2)		**Source: 4072929-06**		Prepared: 07/30/24 Analyzed: 07/31/24						
Antimony	ND	0.168	ng/m³ Air		ND				10	SL, U
Arsenic	2.00	0.0408	ng/m³ Air		2.01			0.293	10	
Barium	8.09	4.66	ng/m³ Air		8.18			1.10	10	
Beryllium	0.0389	0.0139	ng/m³ Air		0.0355			9.11	10	
Cadmium	ND	0.323	ng/m³ Air		ND				10	U
Chromium	ND	9.63	ng/m³ Air		ND				10	U
Cobalt	1.59	0.190	ng/m³ Air		1.59			0.0780	10	
Copper	146	11.5	ng/m³ Air		143			2.46	10	
Lead	ND	0.932	ng/m³ Air		ND				10	U
Manganese	36.7	8.23	ng/m³ Air		36.8			0.193	10	

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/06/24 15:14
SUBMITTED: 07/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G3008 - ICP-MS Extraction										
Dilution Check (B4G3008-SRL2) ContinueSource: 4072929-06 Prepared: 07/30/24 Analyzed: 07/31/24										
Molybdenum	5.39	1.56	ng/m³ Air		5.30			1.79	10	
Nickel	4.39	2.84	ng/m³ Air		4.34			1.15	10	
Selenium	0.232	0.0390	ng/m³ Air		0.232			0.146	10	
Thallium	0.00546	0.00257	ng/m³ Air		ND			100	10	QB-04
Vanadium	4.37	0.230	ng/m³ Air		4.35			0.414	10	
Zinc	ND	335	ng/m³ Air		ND				10	U

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REPORTED: 08/06/24 15:14
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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
A-01a	Parent sample >4x spike amount
A-01	Parent sample >4x post spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/01/2024 and Shanna Vasser 08/01/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/27/2024 and 07/11/2024 – 07/17/2027
Report No: 4072229

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, cobalt, copper, molybdenum, and vanadium in in MFL-FB01-071224-HM, for arsenic in MFL-FB01-071424-HM, and for arsenic in MFL-FB01-071624-HM.

Notes:

4. MFL-AM04-062724-HM was previously marked as void and not shipped due to low volume. It was later determined that there was sufficient volume for the lab to analyze and included with this shipment for analysis.
7. MFL-AM02-071124-HM was analyzed at a two-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

July 25 through July 31, 2024
[Report Updated: September 5, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from July 25 through July 31, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)
-

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from July 25 through July 31 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$) screening level.

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

Daily air sampling at all four community locations accorded with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 $\mu g/m^3$ screening level, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's

analytical sensitivity (see **Table 2**). Notably, the laboratory commented "Numerous gypsum fibers present" regarding samples collected at the following monitoring station:

- WW Pump Station #4 on July 30

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analysis; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3, respectively, for total dust as time-weighted averages (National Institute for Occupational Safety and Health [NIOSH] and Occupational Safety and Health Administration [OSHA]). While total dust sampling has not occurred, results of size-discriminated particulate sampling (PM_{10}) at these locations do not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

All ambient air samples from all four community sampling locations yielded low levels of metals, all below SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally south-southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA Environmental Response Team (ERT) SOPs 2008, "General Air Monitoring and Sampling Guidelines," and 2015 "Asbestos Air Sampling," included in the CAMSP.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

- SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook.”

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
July 25 through July 31, 2024
[Report Updated: September 5, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
7/25/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	15
	Lahaina Boys & Girls Club (AM-04)	14
7/26/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	11
7/27/2024	Leialii Hawaiian Homelands (AM-01)	6.5
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	9.0
7/28/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	6.0
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.5
7/29/2024	Leialii Hawaiian Homelands (AM-01)	7.8
	WW Pump Station #4 (AM-02)	6.0
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	9.9
7/30/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	8.2
	Lahaina Boys & Girls Club (AM-04)	7.3
7/31/2024	Leialii Hawaiian Homelands (AM-01)	6.6
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	17

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
July 25 through July 31, 2024
[Report Updated: September 5, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
7/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000813	0.000547	0.00581	0.0000197	ND	0.00422	0.000750	0.190	0.000527	0.0203	0.0119	0.00235	0.000344	0.00000245	0.00257	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000172	0.000357	0.00456	0.0000158	ND	0.00253	0.000476	0.0345	0.00112	0.0149	0.00194	0.00136	0.000340	0.00000253	0.00174	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000724	0.000435	0.00395	0.0000266	ND	0.00352	0.000672	0.0631	0.000630	0.0165	0.00373	0.00230	0.000351	0.00000268	0.00156	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000873	0.000341	0.00372	0.0000157	ND	0.00319	0.000459	0.0481	0.000764	0.0155	0.00340	0.00147	0.000343	0.00000225	0.00157	ND
7/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000656	0.00140	0.00844	0.0000388	ND	0.00720	0.00169	0.157	0.000503	0.0415	0.00845	0.00347	0.000292	0.00000204	0.00482	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000948	0.000347	0.00485	0.0000155	ND	0.00334	0.000512	0.0365	0.000883	0.0150	0.00214	0.00150	0.000198	0.00000117	0.00163	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000490	0.000252	0.00342	0.0000391	ND	0.00351	0.000600	0.0354	0.000527	0.0154	0.00283	0.00159	0.000190	0.00000119	0.00145	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000108	0.000538	0.00551	0.0000231	ND	0.00404	0.000786	0.0528	0.00118	0.0251	0.00400	0.00194	0.000226	0.00000145	0.00211	ND
7/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000674	0.00202	0.0136	0.0000735	ND	0.0121	0.00307	0.119	0.000667	0.0726	0.00491	0.00563	0.000395	0.00000283	0.00843	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000915	0.000726	0.00892	0.0000278	ND	0.00458	0.00150	0.0356	0.00158	0.0672	0.00183	0.00246	0.000243	0.00000377	0.00313	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000470	0.000266	0.00315	0.0000341	ND	0.00343	0.000557	0.0358	0.000400	0.0138	0.00258	0.00149	0.000138	0.000000906	0.00141	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000704	0.000591	0.00355	0.0000171	ND	0.00314	0.000578	0.0307	0.000978	0.0164	0.00176	0.00141	0.000149	0.000000924	0.00138	ND
7/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000586	0.000380	0.00323	0.00000996	ND	0.00247	0.000336	0.194	0.000266	0.0100	0.00901	0.00112	0.000142	0.000000667	0.00125	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000771	0.000250	0.00308	0.00000902	ND	0.00192	0.000264	0.0317	0.000578	0.00838	0.00179	0.000869	0.000143	0.000000541	0.000999	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000428	0.000175	0.00252	0.0000169	ND	0.00303	0.000336	0.0533	0.000402	0.00936	0.00397	0.00148	0.000148	0.000000714	0.00108	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000695	0.000266	0.00339	0.00000921	ND	0.00288	0.000336	0.0482	0.000672	0.0102	0.00267	0.00143	0.000163	0.000000633	0.00110	ND
7/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000453	0.000588	0.00429	0.0000139	ND	0.00362	0.000640	0.169	0.000316	0.0159	0.00785	0.00159	0.000160	0.000000876	0.00196	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000110	0.000306	0.00442	0.00000944	ND	0.00212	0.000316	0.0264	0.000684	0.00947	0.00143	0.000978	0.000151	0.000000691	0.00104	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000418	0.000221	0.00200	0.0000151	ND	0.00238	0.000276	0.0335	0.000438	0.00693	0.00267	0.000925	0.000123	0.000000549	0.000789	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000796	0.000432	0.00336	0.0000103	ND	0.00244	0.000350	0.0377	0.000946	0.0112	0.00211	0.00106	0.000143	0.000000710	0.00101	ND
7/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000744	0.00115	0.00757	0.0000317	ND	0.00611	0.00132	0.177	0.000795	0.0338	0.00871	0.00311	0.000214	0.00000160	0.00388	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000777	0.000293	0.00404	0.0000141	ND	0.00297	0.000517	0.0416	0.000657	0.0153	0.00225	0.00145	0.000152	0.000000917	0.00154	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000664	0.000297	0.00306	0.0000232	ND	0.00473	0.000518	0.0373	0.000480	0.0124	0.00275	0.00216	0.000128	0.000000717	0.00128	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000694	0.000448	0.00369	0.0000168	ND	0.00305	0.000482	0.0388	0.000759	0.0160	0.00188	0.00126	0.000146	0.000000814	0.00126	ND
7/31/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000169	0.00216	0.00743	0.0000264	0.0000704	0.00654	0.00132	0.159	0.000536	0.0310	0.00751	0.00328	0.000218	0.00000143	0.00369	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000149	0.000301	0.00602	0.0000152	ND	0.00296	0.000588	0.0373	0.000844	0.0166	0.00180	0.00157	0.000179	0.00000101	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000726	0.000270	0.00403	0.0000228	ND	0.00318	0.000577	0.0624	0.000525	0.0133	0.00418	0.00264	0.000213	0.000000976	0.00123	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000109	0.000570	0.00517	0.0000209	ND	0.00372	0.000705	0.0416	0.00118	0.0233	0.00191	0.00189	0.000209	0.00000118	0.00181	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000710	0.00565	0.0000260	NA	0.00443	0.000900	0.0919	0.000830	0.0251	0.00501	0.00224	0.000240	0.00000170	0.00244	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 25 through July 31, 2024
[Report Updated: September 5, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
7/25/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	86	61	762.4
7/25/2024	AM-02	WW Pump Station #4	0.9	SSE	84	67	764.6
7/25/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	755.1
7/25/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	80	66	764.1
7/26/2024	AM-01	Leialii Hawaiian Homelands	1.9	ESE	85	54	760.9
7/26/2024	AM-02	WW Pump Station #4	1.3	SSE	83	59	763.0
7/26/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	57	753.5
7/26/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	59	762.6
7/27/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	85	57	759.9
7/27/2024	AM-02	WW Pump Station #4	0.9	SSE	83	63	762.0
7/27/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	62	752.5
7/27/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	64	761.6
7/28/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	86	60	761.3
7/28/2024	AM-02	WW Pump Station #4	1.1	SSE	83	67	763.4
7/28/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	753.9
7/28/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	67	763.0
7/29/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	85	56	762.1
7/29/2024	AM-02	WW Pump Station #4	1.1	SSE	83	62	764.3
7/29/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	59	754.7
7/29/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	63	763.8
7/30/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	83	65	761.6
7/30/2024	AM-02	WW Pump Station #4	0.9	S	82	68	763.8
7/30/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	66	754.3
7/30/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	68	763.3
7/31/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	85	56	760.8
7/31/2024	AM-02	WW Pump Station #4	1.1	SSE	82	62	763.0
7/31/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	59	753.4
7/31/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	77	64	762.5

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common material used in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more in-depth discussion can be found in the attached weekly report.

**Please note sample data that does not fall within this reporting period have been removed or redacted

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-072524-AB** **Sample Description: DL247143**

EMSL Sample Number:	042415945-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0001 **Customer Sample:** MFL-AM01-072524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B2	None Detected									
B2	D4	None Detected									
B2	G8	None Detected									
B3	H2	None Detected									
B3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072524-AB**		**Sample Description:**	**DL247145**
EMSL Sample Number:	042415945-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0002 **Customer Sample:** MFL-AM02-072524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A5	None Detected									
B5	E8	None Detected									
B5	I6	None Detected									
B6	I8	None Detected									
B6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072524-AB**		**Sample Description:**	**DL247179**
EMSL Sample Number:	042415945-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0003 **Customer Sample:** MFL-AM03-072524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J1	None Detected									
C2	G5	None Detected									
C2	D6	None Detected									
C3	H4	None Detected									
C3	C1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072524-AB**		**Sample Description:**	**DL247153**
EMSL Sample Number:	042415945-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7126.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0004 **Customer Sample:** MFL-AM04-072524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A5	None Detected									
C5	D2	None Detected									
C5	I6	None Detected									
C6	H4	None Detected									
C6	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-072524-AB**		**Sample Description:**	**DL247159**
EMSL Sample Number:	042415945-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0005 **Customer Sample:** MFL-FB01-072524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J2	None Detected									
D2	H4	None Detected									
D2	F8	None Detected									
D2	D4	None Detected									
D2	B2	None Detected									
D3	A10	None Detected									
D3	C7	None Detected									
D3	E9	None Detected									
D3	G10	None Detected									
D3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072624-AB**	**Sample Description:**	**DL247148**
EMSL Sample Number:	042415945-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7226.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0006 **Customer Sample:** MFL-AM01-072624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	G4	None Detected									
D5	B3	None Detected									
D6	B9	None Detected									
D6	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072624-AB**	**Sample Description:**	**DL247140**
EMSL Sample Number:	042415945-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7296.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0007 **Customer Sample:** MFL-AM02-072624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	I4	None Detected									
E3	G6	None Detected									
E3	D4	None Detected									
E4	I3	None Detected									
E4	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072624-AB**	**Sample Description:**	**DL247163**
EMSL Sample Number:	042415945-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7154.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0008 **Customer Sample:** MFL-AM03-072624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E6	A8	None Detected									
E6	D10	None Detected									
E6	H9	None Detected									
E7	H3	None Detected									
E7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072624-AB**		**Sample Description:**	**DL247167**
EMSL Sample Number:	042415945-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7249.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0009 **Customer Sample:** MFL-AM04-072624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	D4	None Detected									
F2	G7	None Detected									
F3	H5	None Detected									
F3	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-072624-AB**		**Sample Description:**	**DL247158**
EMSL Sample Number:	042415945-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0010 **Customer Sample:** MFL-FB01-072624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J7	None Detected									
F5	H3	None Detected									
F5	F1	None Detected									
F5	D6	None Detected									
F5	B8	None Detected									
F6	J7	None Detected									
F6	H8	None Detected									
F6	F7	None Detected									
F6	D6	None Detected									
F6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072724-AB**		**Sample Description:**	**DL247160**
EMSL Sample Number:	042415945-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0011 **Customer Sample:** MFL-AM01-072724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J6	None Detected									
G2	G2	None Detected									
G2	D4	None Detected									
G3	H5	None Detected									
G3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
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Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072724-AB**	**Sample Description:**	**DL247149**
EMSL Sample Number:	042415945-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7147.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0012 **Customer Sample:** MFL-AM02-072724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A8	None Detected									
G5	E7	None Detected									
G5	I7	None Detected									
G6	G2	None Detected									
G6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072724-AB**	**Sample Description:**	**DL247168**
EMSL Sample Number:	042415945-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7147.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0013 **Customer Sample:** MFL-AM03-072724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B4	None Detected									
H2	E8	None Detected									
H2	G4	None Detected									
H3	C4	None Detected									
H3	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072724-AB**		**Sample Description:**	**DL247147**
EMSL Sample Number:	042415945-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7294.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0014 **Customer Sample:** MFL-AM04-072724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A4	None Detected									
H5	D7	None Detected									
H5	I4	None Detected									
H6	B4	None Detected									
H6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-072724-AB**		**Sample Description:**	**DL247150**
EMSL Sample Number:	042415945-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0015 **Customer Sample:** MFL-FB01-072724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J2	None Detected									
I2	H3	None Detected									
I2	F7	None Detected									
I2	D8	None Detected									
I2	B4	None Detected									
I3	A7	None Detected									
I3	C6	None Detected									
I3	E8	None Detected									
I3	G9	None Detected									
I3	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072824-AB**	**Sample Description:**	**DL247171**
EMSL Sample Number:	042415945-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7224.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0016 **Customer Sample:** MFL-AM01-072824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A4	None Detected									
I5	D8	None Detected									
I5	G10	None Detected									
I6	B6	None Detected									
I6	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072824-AB**		**Sample Description:**	**DL247165**
EMSL Sample Number:	042415945-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0017 **Customer Sample:** MFL-AM02-072824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	H6	None Detected									
J2	E3	None Detected									
J2	A3	None Detected									
J3	C8	None Detected									
J3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
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Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072824-AB**	**Sample Description:**	**DL247169**
EMSL Sample Number:	042415945-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7153.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0018 **Customer Sample:** MFL-AM03-072824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I5	None Detected									
J5	E8	None Detected									
J5	A7	None Detected									
J6	B4	None Detected									
J6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072824-AB**	**Sample Description:**	**DL247154**
EMSL Sample Number:	042415945-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7178.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0019 **Customer Sample:** MFL-AM04-072824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	I5	None Detected									
K2	G4	None Detected									
K2	C4	None Detected									
K3	D8	None Detected									
K3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-072824-AB**		**Sample Description:**	**DL246247**
EMSL Sample Number:	042415945-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0020 **Customer Sample:** MFL-FB01-072824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A6	None Detected									
K5	C8	None Detected									
K5	E4	None Detected									
K5	G2	None Detected									
K5	I4	None Detected									
K6	J8	None Detected									
K6	H7	None Detected									
K6	F4	None Detected									
K6	D2	None Detected									
K6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042415945
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/31/2024 09:40 AM
Analysis Date:	08/05/2024
Report Date:	08/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042415945-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042415945**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415945-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A5	None Detected									
A1	C2	None Detected									
A1	E1	None Detected									
A1	G4	None Detected									
A1	I3	None Detected									
A2	J7	None Detected									
A2	H5	None Detected									
A2	F4	None Detected									
A2	D8	None Detected									
A2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042415945

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042415945

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill To is the same as Report To leave this section blank. Third party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE. 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	Country: USA	City, State, Zip: Country:
Phone:	(703) 489-2674		
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED BY EMSL CINNAMINSON, NJ 2024 JUL 31 AM 10:07

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-072524-AB	DL247143	7,203.404	07/25/24 1059
MFL-AM02-072524-AB	DL247145	7,143.861	07/25/24 1117
MFL-AM03-072524-AB	DL247179	7,219.428	07/25/24 1258
MFL-AM04-072524-AB	(SE) ~~DL247156~~ DL247153	7,126.882	07/25/24 1320
MFL-FB01-072524-AB	DL247159	0	07/25/24 1200
MFL-AM01-072624-AB	DL247148	7,226.529	07/26/24 1059
MFL-AM02-072624-AB	DL247140	7,296.942	07/26/24 1117
MFL-AM03-072624-AB	DL247163	7,154.194	07/26/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time: 07/29/24 1100	Received by: FT	Date/Time 7/31/24 940
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-06 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

DO AH

OrderID: 042415945

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042415945

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-072624-AB	(3E) ~~DL247164~~ DL247167	7,249.752	07/26/24 1320
MFL-FB01-072624-AB	DL247158	0	07/26/24 1200
MFL-AM01-072724-AB	DL247160	7,159.532	07/27/24 1057
MFL-AM02-072724-AB	DL247199	7,147.661	07/27/24 1113
MFL-AM03-072724-AB	DL247168	7,147.088	07/27/24 1256
MFL-AM04-072724-AB	DL247147	7,293967	07/27/24 1321
MFL-FB01-072724-AB	DL247150	0	07/27/24 1200
MFL-AM01-072824-AB	DL247171	7,224.840	07/28/24 1100
MFL-AM02-072824-AB	DL247165	7,181.368	07/28/24 1118
MFL-AM03-072824-AB	DL247169	7,153.056	07/28/24 1300
MFL-AM04-072824-AB	DL247154	7,178.461	07/28/24 1323
MFL-FB01-072824-AB	DL246247	0	07/28/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUL 30 A 12:07

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/29/24 1100	Received by:	Date/Time 7/31/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/07/2024 and Shanna Vasser 08/08/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/25/2024 – 07/28/2024
Report No: 42415945

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-072924-AB**		**Sample Description:**	**DL246230**
EMSL Sample Number:	042416247-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0001 **Customer Sample:** MFL-AM01-072924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A3	None Detected									
A5	E8	None Detected									
A5	J5	None Detected									
A7	C4	None Detected									
A7	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-072924-AB**		**Sample Description:**	**DL246201**
EMSL Sample Number:	042416247-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0002 **Customer Sample:** MFL-AM02-072924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A5	None Detected									
B2	E4	None Detected									
B2	I7	None Detected									
B3	H7	None Detected									
B3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-072924-AB**	**Sample Description:**	**DL246552**
EMSL Sample Number:	042416247-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7206.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0003 **Customer Sample:** MFL-AM03-072924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J4	None Detected									
B5	H7	None Detected									
B5	B5	None Detected									
B7	G6	None Detected									
B7	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-072924-AB**		**Sample Description:**	**DL246964**
EMSL Sample Number:	042416247-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0004 **Customer Sample:** MFL-AM04-072924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I9	None Detected									
C1	F3	None Detected									
C1	B4	None Detected									
C2	J3	None Detected									
C2	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-072924-AB** **Sample Description: DL246214**

EMSL Sample Number:	042416247-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0005 **Customer Sample:** MFL-FB01-072924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A3	None Detected									
C5	C7	None Detected									
C5	G4	None Detected									
C5	I7	None Detected									
C6	B9	None Detected									
C6	B5	None Detected									
C6	F4	None Detected									
C6	H8	None Detected									
C7	A9	None Detected									
C7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-073024-AB**	**Sample Description:**	**DL246607**
EMSL Sample Number:	042416247-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7131.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0006 **Customer Sample:** MFL-AM01-073024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	H4	None Detected									
D1	F7	None Detected									
D1	A8	None Detected									
D2	A3	None Detected									
D2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-073024-AB**		**Sample Description:**	**DL246207**
EMSL Sample Number:	042416247-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0007 **Customer Sample:** MFL-AM02-073024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	B8	None Detected									
D6	E3	None Detected									
D6	J5	None Detected									
D7	C3	None Detected									
D7	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-073024-AB**		**Sample Description:**	**DL246434**
EMSL Sample Number:	042416247-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7278.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0008 **Customer Sample:** MFL-AM03-073024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J5	None Detected									
E1	F7	None Detected									
E1	B4	None Detected									
E2	I3	None Detected									
E2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
Customer ID:	TTDC42
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Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
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Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-073024-AB**		**Sample Description:**	**DL246217**
EMSL Sample Number:	042416247-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0009 **Customer Sample:** MFL-AM04-073024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H8	None Detected									
E5	H4	None Detected									
E5	C6	None Detected									
E6	G5	None Detected									
E6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-073024-AB**		**Sample Description:**	**DL246488**
EMSL Sample Number:	042416247-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0010 **Customer Sample:** MFL-FB01-073024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C7	None Detected									
F1	E4	None Detected									
F1	J7	None Detected									
F2	J9	None Detected									
F2	I4	None Detected									
F2	F2	None Detected									
F2	A6	None Detected									
F3	B8	None Detected									
F3	D6	None Detected									
F3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/09/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-073124-AB**		**Sample Description:**	**DL246239**
EMSL Sample Number:	042416247-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0011 **Customer Sample:** MFL-AM01-073124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	G4	None Detected									
F5	C7	None Detected									
F6	J4	None Detected									
F6	E8	None Detected									
F6	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/09/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-073124-AB**		**Sample Description:**	**DL246545**
EMSL Sample Number:	042416247-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7093.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0012 **Customer Sample:** MFL-AM02-073124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B3	None Detected									
G1	D7	None Detected									
G1	I9	None Detected									
G2	J6	None Detected									
G2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/09/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-073124-AB**		**Sample Description:**	**DL246216**
EMSL Sample Number:	042416247-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7085.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0013 **Customer Sample:** MFL-AM03-073124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I9	None Detected									
G5	E4	None Detected									
G5	A7	None Detected									
G6	H7	None Detected									
G6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416247
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Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/09/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-073124-AB**		**Sample Description:**	**DL246189**
EMSL Sample Number:	042416247-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0014 **Customer Sample:** MFL-AM04-073124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I6	None Detected									
H1	E9	None Detected									
H1	C5	None Detected									
H2	J5	None Detected									
H2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/09/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-073124-AB** **Sample Description: DL246203**

EMSL Sample Number:	042416247-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0015 **Customer Sample:** MFL-FB01-073124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J7	None Detected									
H5	G9	None Detected									
H5	D6	None Detected									
H5	A4	None Detected									
H6	I3	None Detected									
H6	G6	None Detected									
H6	D3	None Detected									
H7	B9	None Detected									
H7	B4	None Detected									
H7	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416247
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/05/2024 09:00 AM
Analysis Date:	08/08/2024
Report Date:	08/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042416247-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042416247**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416247-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	G7	None Detected									
A1	D5	None Detected									
A1	A2	None Detected									
A2	I5	None Detected									
A2	F9	None Detected									
A2	E3	None Detected									
A3	B7	None Detected									
A3	D5	None Detected									
A3	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042416247

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042416247

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 2024 AUG -5 AM 9:31

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE. 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) - 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-072924-AB	DL246230	7,227.392	07/29/24 1101
MFL-AM02-072924-AB	DL246201	7,142.951	07/29/24 1116
MFL-AM03-072924-AB	DL246552	7,205.962	07/29/24 1300
MFL-AM04-072924-AB	DL246964	7,181.803	07/29/24 1323
MFL-FB01-072924-AB	DL246214	0	07/29/24 1200
MFL-AM01-073024-AB	DL246607	7,131.168	07/30/24 1103
MFL-AM02-073024-AB	DL246207	7,228.880	07/30/24 1129
MFL-AM03-073024-AB	DL246434	7,278.624	07/30/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment: Fed Ex

Relinquished by: Date/Time: 08/01/24 1100
Relinquished by: Date/Time:

Sample Condition Upon Receipt:
Received by: Fedex Date/Time 8/5/24 9AM
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042416247

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042416247

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-073024-AB	DL246217	7,269.408	07/30/24 1326
MFL-FB01-073024-AB	DL246488	0	07/30/24 1200
MFL-AM01-073124-AB	DL246239	7,212.134	07/31/24 1104
MFL-AM02-073124-AB	DL246545	7,093.038	07/31/24 1122
MFL-AM03-073124-AB	DL246216	7,085.794	07/31/24 1259
MFL-AM04-073124-AB	DL246189	7,181.003	07/31/24 1321
MFL-FB01-073124-AB	DL246203	0	07/31/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG -5 AM 9:31

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/01/24 1100	Received by: FedEx	Date/Time 8/5/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/12/2024 and Shanna Vasser 8/13/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/29/2024 – 07/31/2024
Report No: 42416247

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

[redacted]

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

August 13, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 03/11/24 11:48 through 08/05/24 10:30.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

[redacted]

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MFL-AM01-072524-HM	4080550-01	Air	07/25/24 23:59	08/05/24 10:30
MFL-AM02-072524-HM	4080550-02	Air	07/25/24 23:59	08/05/24 10:30
MFL-AM03-072524-HM	4080550-03	Air	07/25/24 23:59	08/05/24 10:30
MFL-AM04-072524-HM	4080550-04	Air	07/25/24 23:59	08/05/24 10:30
MFL-AM01-072624-HM	4080550-05	Air	07/26/24 23:59	08/05/24 10:30
MFL-AM02-072624-HM	4080550-06	Air	07/26/24 23:59	08/05/24 10:30
MFL-AM03-072624-HM	4080550-07	Air	07/26/24 23:59	08/05/24 10:30
MFL-AM04-072624-HM	4080550-08	Air	07/26/24 23:59	08/05/24 10:30
MFL-FB01-072624-HM	4080550-09	Air	07/26/24 00:05	08/05/24 10:30
MFL-AM01-072724-HM	4080550-10	Air	07/27/24 23:59	08/05/24 10:30
MFL-AM02-072724-HM	4080550-11	Air	07/27/24 23:59	08/05/24 10:30
MFL-AM03-072724-HM	4080550-12	Air	07/27/24 23:59	08/05/24 10:30
MFL-AM04-072724-HM	4080550-13	Air	07/27/24 23:59	08/05/24 10:30
MFL-AM01-072824-HM	4080550-14	Air	07/28/24 23:59	08/05/24 10:30
MFL-AM02-072824-HM	4080550-15	Air	07/28/24 23:59	08/05/24 10:30
MFL-AM03-072824-HM	4080550-16	Air	07/28/24 23:59	08/05/24 10:30
MFL-AM04-072824-HM	4080550-17	Air	07/28/24 23:59	08/05/24 10:30
MFL-FB01-072824-HM	4080550-18	Air	07/28/24 00:05	08/05/24 10:30
MFL-AM01-072924-HM	4080550-19	Air	07/29/24 23:59	08/05/24 10:30
MFL-AM02-072924-HM	4080550-20	Air	07/29/24 23:59	08/05/24 10:30

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-072924-HM	4080550-21	Air	07/29/24 23:59	08/05/24 10:30
MFL-AM04-072924-HM	4080550-22	Air	07/29/24 23:59	08/05/24 10:30
MFL-AM01-073024-HM	4080550-23	Air	07/30/24 23:59	08/05/24 10:30
MFL-AM02-073024-HM	4080550-24	Air	07/30/24 23:59	08/05/24 10:30
MFL-AM03-073024-HM	4080550-25	Air	07/30/24 23:59	08/05/24 10:30
MFL-AM04-073024-HM	4080550-26	Air	07/30/24 23:59	08/05/24 10:30
MFL-FB01-073024-HM	4080550-27	Air	07/30/24 00:05	08/05/24 10:30
MFL-LB01-073024-HM	4080550-28	Air	07/30/24 00:05	08/05/24 10:30
MFL-AM01-073124-HM	4080550-29	Air	07/31/24 23:59	08/05/24 10:30
MFL-AM02-073124-HM	4080550-30	Air	07/31/24 23:59	08/05/24 10:30
MFL-AM03-073124-HM	4080550-31	Air	07/31/24 23:59	08/05/24 10:30
MFL-AM04-073124-HM	4080550-32	Air	07/31/24 23:59	08/05/24 10:30

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

[redacted]

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072524-HM
Matrix: Air
Lab ID: 4080550-01
Sample Volume: 1893.534 m³
Filter ID:
Sampled: 07/25/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 01:21

Comments: Q9539050 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0813**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.547**		**0.00805**
Barium	**7440-39-3**	**5.81**		**0.919**
Beryllium	**7440-41-7**	**0.0197**		**0.00275**
Cadmium	7440-43-9	0.0310	U	0.0637
Chromium	**7440-47-3**	**4.22**		**1.90**
Cobalt	**7440-48-4**	**0.750**		**0.0375**
Copper	**7440-50-8**	**190**		**2.26**
Lead	**7439-92-1**	**0.527**		**0.184**
Manganese	**7439-96-5**	**20.3**		**1.62**
Molybdenum	**7439-98-7**	**11.9**		**0.308**
Nickel	**7440-02-0**	**2.35**		**0.560**
Selenium	**7782-49-2**	**0.344**		**0.00770**
Thallium	**7440-28-0**	**0.00245**		**5.06E-4**
Vanadium	**7440-62-2**	**2.57**		**0.0455**
Zinc	7440-66-6	13.2	U	66.0

[redacted]

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072524-HM
Matrix: Air
Lab ID: 4080550-02
Sample Volume: 2126.896 m³
Filter ID:
Sampled: 07/25/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/06/24 18:43

Comments: Q9539047 - Received in good condition MS/MSD

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.357**		**0.00717**
Barium	**7440-39-3**	**4.56**		**0.819**
Beryllium	**7440-41-7**	**0.0158**		**0.00245**
Cadmium	7440-43-9	0.0181	U	0.0567
Chromium	**7440-47-3**	**2.53**		**1.69**
Cobalt	**7440-48-4**	**0.476**		**0.0334**
Copper	**7440-50-8**	**34.5**		**2.01**
Lead	**7439-92-1**	**1.12**		**0.164**
Manganese	**7439-96-5**	**14.9**		**1.45**
Molybdenum	**7439-98-7**	**1.94**		**0.275**
Nickel	**7440-02-0**	**1.36**		**0.499**
Selenium	**7782-49-2**	**0.340**		**0.00685**
Thallium	**7440-28-0**	**0.00253**		**4.51E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0405**
Zinc	7440-66-6	14.3	U	58.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072524-HM
Matrix: Air
Lab ID: 4080550-03
Sample Volume: 1873.796 m³
Filter ID:
Sampled: 07/25/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 01:39

Comments: Q9539046 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0724**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.435**		**0.00814**
Barium	**7440-39-3**	**3.95**		**0.929**
Beryllium	**7440-41-7**	**0.0266**		**0.00278**
Cadmium	7440-43-9	0.0210	U	0.0643
Chromium	**7440-47-3**	**3.52**		**1.92**
Cobalt	**7440-48-4**	**0.672**		**0.0379**
Copper	**7440-50-8**	**63.1**		**2.28**
Lead	**7439-92-1**	**0.630**		**0.186**
Manganese	**7439-96-5**	**16.5**		**1.64**
Molybdenum	**7439-98-7**	**3.73**		**0.312**
Nickel	**7440-02-0**	**2.30**		**0.566**
Selenium	**7782-49-2**	**0.351**		**0.00778**
Thallium	**7440-28-0**	**0.00268**		**5.11E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0459**
Zinc	7440-66-6	22.6	U	66.7

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072524-HM
Matrix: Air
Lab ID: 4080550-04
Sample Volume: 1880.139 m³
Filter ID:
Sampled: 07/25/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 01:54

Comments: Q9539044 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0873**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.341**		**0.00811**
Barium	**7440-39-3**	**3.72**		**0.926**
Beryllium	**7440-41-7**	**0.0157**		**0.00277**
Cadmium	7440-43-9	0.0149	U	0.0641
Chromium	**7440-47-3**	**3.19**		**1.91**
Cobalt	**7440-48-4**	**0.459**		**0.0377**
Copper	**7440-50-8**	**48.1**		**2.28**
Lead	**7439-92-1**	**0.764**		**0.185**
Manganese	**7439-96-5**	**15.5**		**1.64**
Molybdenum	**7439-98-7**	**3.40**		**0.311**
Nickel	**7440-02-0**	**1.47**		**0.564**
Selenium	**7782-49-2**	**0.343**		**0.00775**
Thallium	**7440-28-0**	**0.00225**		**5.10E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0458**
Zinc	7440-66-6	14.8	U	66.5

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072624-HM
Matrix: Air
Lab ID: 4080550-05
Sample Volume: 1932.215 m³
Filter ID:
Sampled: 07/26/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 02:09

Comments: Q9539043 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0656**	SL	**0.0325**
Arsenic	**7440-38-2**	**1.40**		**0.00789**
Barium	**7440-39-3**	**8.44**		**0.901**
Beryllium	**7440-41-7**	**0.0388**		**0.00269**
Cadmium	7440-43-9	0.0222	U	0.0624
Chromium	**7440-47-3**	**7.20**		**1.86**
Cobalt	**7440-48-4**	**1.69**		**0.0367**
Copper	**7440-50-8**	**157**		**2.21**
Lead	**7439-92-1**	**0.503**		**0.180**
Manganese	**7439-96-5**	**41.5**		**1.59**
Molybdenum	**7439-98-7**	**8.45**		**0.302**
Nickel	**7440-02-0**	**3.47**		**0.549**
Selenium	**7782-49-2**	**0.292**		**0.00754**
Thallium	**7440-28-0**	**0.00204**		**4.96E-4**
Vanadium	**7440-62-2**	**4.82**		**0.0445**
Zinc	7440-66-6	12.7	U	64.7

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072624-HM
Matrix: Air
Lab ID: 4080550-06
Sample Volume: 2141.539 m³
Filter ID:
Sampled: 07/26/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 02:26

Comments: Q9539042 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0948**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.347**		**0.00712**
Barium	**7440-39-3**	**4.85**		**0.813**
Beryllium	**7440-41-7**	**0.0155**		**0.00243**
Cadmium	7440-43-9	0.0172	U	0.0563
Chromium	**7440-47-3**	**3.34**		**1.68**
Cobalt	**7440-48-4**	**0.512**		**0.0331**
Copper	**7440-50-8**	**36.5**		**2.00**
Lead	**7439-92-1**	**0.883**		**0.163**
Manganese	**7439-96-5**	**15.0**		**1.44**
Molybdenum	**7439-98-7**	**2.14**		**0.273**
Nickel	**7440-02-0**	**1.50**		**0.495**
Selenium	**7782-49-2**	**0.198**		**0.00681**
Thallium	**7440-28-0**	**0.00117**		**4.47E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0402**
Zinc	7440-66-6	11.0	U	58.3

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072624-HM
Matrix: Air
Lab ID: 4080550-07
Sample Volume: 1836.226 m³
Filter ID:
Sampled: 07/26/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 02:41

Comments: Q9539041 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.252**		**0.00830**
Barium	**7440-39-3**	**3.42**		**0.948**
Beryllium	**7440-41-7**	**0.0391**		**0.00284**
Cadmium	7440-43-9	0.0110	U	0.0657
Chromium	**7440-47-3**	**3.51**		**1.96**
Cobalt	**7440-48-4**	**0.600**		**0.0386**
Copper	**7440-50-8**	**35.4**		**2.33**
Lead	**7439-92-1**	**0.527**		**0.190**
Manganese	**7439-96-5**	**15.4**		**1.67**
Molybdenum	**7439-98-7**	**2.83**		**0.318**
Nickel	**7440-02-0**	**1.59**		**0.578**
Selenium	**7782-49-2**	**0.190**		**0.00794**
Thallium	**7440-28-0**	**0.00119**		**5.22E-4**
Vanadium	**7440-62-2**	**1.45**		**0.0469**
Zinc	7440-66-6	10.3	U	68.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072624-HM
Matrix: Air
Lab ID: 4080550-08
Sample Volume: 1825.34 m³
Filter ID:
Sampled: 07/26/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 02:55

Comments: Q9539040 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.538**		**0.00835**
Barium	**7440-39-3**	**5.51**		**0.954**
Beryllium	**7440-41-7**	**0.0231**		**0.00285**
Cadmium	7440-43-9	0.0222	U	0.0660
Chromium	**7440-47-3**	**4.04**		**1.97**
Cobalt	**7440-48-4**	**0.786**		**0.0389**
Copper	**7440-50-8**	**52.8**		**2.34**
Lead	**7439-92-1**	**1.18**		**0.191**
Manganese	**7439-96-5**	**25.1**		**1.68**
Molybdenum	**7439-98-7**	**4.00**		**0.320**
Nickel	**7440-02-0**	**1.94**		**0.581**
Selenium	**7782-49-2**	**0.226**		**0.00799**
Thallium	**7440-28-0**	**0.00145**		**5.25E-4**
Vanadium	**7440-62-2**	**2.11**		**0.0472**
Zinc	7440-66-6	18.8	U	68.5

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-072624-HM
Matrix: Air
Lab ID: 4080550-09
Sample Volume: 1932.215 m³
Filter ID:
Sampled: 07/26/24 00:05
Received: 08/05/24 10:30
Analysis Date: 08/07/24 03:09

Comments: Q9539037 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0255	U, SL	0.0325
Arsenic	7440-38-2	0.00593	U	0.00789
Barium	7440-39-3	0.528	U	0.901
Beryllium	7440-41-7	7.22E-4	U	0.00269
Cadmium	7440-43-9	0.00161	U	0.0624
Chromium	7440-47-3	1.24	U	1.86
Cobalt	7440-48-4	0.0237	U	0.0367
Copper	7440-50-8	1.21	U	2.21
Lead	7439-92-1	0.0625	U	0.180
Manganese	7439-96-5	0.204	U	1.59
Molybdenum	7439-98-7	0.218	U	0.302
Nickel	7440-02-0	0.358	U	0.549
Selenium	7782-49-2	9.93E-4	U	0.00754
Thallium	7440-28-0	6.92E-5	U	4.96E-4
Vanadium	7440-62-2	0.00870	U	0.0445
Zinc	7440-66-6	5.38	U	64.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072724-HM
Matrix: Air
Lab ID: 4080550-10
Sample Volume: 1947.501 m³
Filter ID:
Sampled: 07/27/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 03:23

Comments: Q9539039 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0674**	SL	**0.0322**
Arsenic	**7440-38-2**	**2.02**		**0.00783**
Barium	**7440-39-3**	**13.6**		**0.894**
Beryllium	**7440-41-7**	**0.0735**		**0.00267**
Cadmium	7440-43-9	0.0587	U	0.0619
Chromium	**7440-47-3**	**12.1**		**1.85**
Cobalt	**7440-48-4**	**3.07**		**0.0364**
Copper	**7440-50-8**	**119**		**2.20**
Lead	**7439-92-1**	**0.667**		**0.179**
Manganese	**7439-96-5**	**72.6**		**1.58**
Molybdenum	**7439-98-7**	**4.91**		**0.300**
Nickel	**7440-02-0**	**5.63**		**0.545**
Selenium	**7782-49-2**	**0.395**		**0.00749**
Thallium	**7440-28-0**	**0.00283**		**4.92E-4**
Vanadium	**7440-62-2**	**8.43**		**0.0442**
Zinc	7440-66-6	12.9	U	64.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072724-HM
Matrix: Air
Lab ID: 4080550-11
Sample Volume: 2164.269 m³
Filter ID:
Sampled: 07/27/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 04:34

Comments: Q9539038 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0915**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.726**		**0.00704**
Barium	**7440-39-3**	**8.92**		**0.804**
Beryllium	**7440-41-7**	**0.0278**		**0.00241**
Cadmium	7440-43-9	0.0270	U	0.0557
Chromium	**7440-47-3**	**4.58**		**1.66**
Cobalt	**7440-48-4**	**1.50**		**0.0328**
Copper	**7440-50-8**	**35.6**		**1.98**
Lead	**7439-92-1**	**1.58**		**0.161**
Manganese	**7439-96-5**	**67.2**		**1.42**
Molybdenum	**7439-98-7**	**1.83**		**0.270**
Nickel	**7440-02-0**	**2.46**		**0.490**
Selenium	**7782-49-2**	**0.243**		**0.00674**
Thallium	**7440-28-0**	**0.00377**		**4.43E-4**
Vanadium	**7440-62-2**	**3.13**		**0.0398**
Zinc	7440-66-6	16.1	U	57.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072724-HM
Matrix: Air
Lab ID: 4080550-12
Sample Volume: 1855.037 m³
Filter ID:
Sampled: 07/27/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 04:51

Comments: Q9539036 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0470**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.266**		**0.00822**
Barium	**7440-39-3**	**3.15**		**0.938**
Beryllium	**7440-41-7**	**0.0341**		**0.00281**
Cadmium	7440-43-9	0.00829	U	0.0650
Chromium	**7440-47-3**	**3.43**		**1.94**
Cobalt	**7440-48-4**	**0.557**		**0.0382**
Copper	**7440-50-8**	**35.8**		**2.31**
Lead	**7439-92-1**	**0.400**		**0.188**
Manganese	**7439-96-5**	**13.8**		**1.66**
Molybdenum	**7439-98-7**	**2.58**		**0.315**
Nickel	**7440-02-0**	**1.49**		**0.572**
Selenium	**7782-49-2**	**0.138**		**0.00786**
Thallium	**7440-28-0**	**9.06E-4**		**5.17E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0464**
Zinc	7440-66-6	10.8	U	67.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072724-HM
Matrix: Air
Lab ID: 4080550-13
Sample Volume: 1912.412 m³
Filter ID:
Sampled: 07/27/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 05:05

Comments: Q9539034 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0704**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.591**		**0.00797**
Barium	**7440-39-3**	**3.55**		**0.910**
Beryllium	**7440-41-7**	**0.0171**		**0.00272**
Cadmium	7440-43-9	0.0135	U	0.0630
Chromium	**7440-47-3**	**3.14**		**1.88**
Cobalt	**7440-48-4**	**0.578**		**0.0371**
Copper	**7440-50-8**	**30.7**		**2.24**
Lead	**7439-92-1**	**0.978**		**0.182**
Manganese	**7439-96-5**	**16.4**		**1.61**
Molybdenum	**7439-98-7**	**1.76**		**0.305**
Nickel	**7440-02-0**	**1.41**		**0.555**
Selenium	**7782-49-2**	**0.149**		**0.00762**
Thallium	**7440-28-0**	**9.24E-4**		**5.01E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0450**
Zinc	7440-66-6	11.5	U	65.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072824-HM
Matrix: Air
Lab ID: 4080550-14
Sample Volume: 1933.83 m³
Filter ID:
Sampled: 07/28/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 05:20

Comments: Q9539032 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0586**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.380**		**0.00788**
Barium	**7440-39-3**	**3.23**		**0.900**
Beryllium	**7440-41-7**	**0.00996**		**0.00269**
Cadmium	7440-43-9	0.0163	U	0.0623
Chromium	**7440-47-3**	**2.47**		**1.86**
Cobalt	**7440-48-4**	**0.336**		**0.0367**
Copper	**7440-50-8**	**194**		**2.21**
Lead	**7439-92-1**	**0.266**		**0.180**
Manganese	**7439-96-5**	**10.0**		**1.59**
Molybdenum	**7439-98-7**	**9.01**		**0.302**
Nickel	**7440-02-0**	**1.12**		**0.549**
Selenium	**7782-49-2**	**0.142**		**0.00754**
Thallium	**7440-28-0**	**6.67E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0445**
Zinc	7440-66-6	7.31	U	64.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072824-HM
Matrix: Air
Lab ID: 4080550-15
Sample Volume: 2148.721 m³
Filter ID:
Sampled: 07/28/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 05:47

Comments: Q9539031 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0771**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.250**		**0.00709**
Barium	**7440-39-3**	**3.08**		**0.810**
Beryllium	**7440-41-7**	**0.00902**		**0.00242**
Cadmium	7440-43-9	0.00782	U	0.0561
Chromium	**7440-47-3**	**1.92**		**1.67**
Cobalt	**7440-48-4**	**0.264**		**0.0330**
Copper	**7440-50-8**	**31.7**		**1.99**
Lead	**7439-92-1**	**0.578**		**0.162**
Manganese	**7439-96-5**	**8.38**		**1.43**
Molybdenum	**7439-98-7**	**1.79**		**0.272**
Nickel	**7440-02-0**	**0.869**		**0.494**
Selenium	**7782-49-2**	**0.143**		**0.00678**
Thallium	**7440-28-0**	**5.41E-4**		**4.46E-4**
Vanadium	**7440-62-2**	**0.999**		**0.0401**
Zinc	7440-66-6	8.02	U	58.2

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072824-HM
Matrix: Air
Lab ID: 4080550-16
Sample Volume: 1879.294 m³
Filter ID:
Sampled: 07/28/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 06:02

Comments: Q9539029 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0428**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.175**		**0.00811**
Barium	**7440-39-3**	**2.52**		**0.926**
Beryllium	**7440-41-7**	**0.0169**		**0.00277**
Cadmium	7440-43-9	0.0120	U	0.0642
Chromium	**7440-47-3**	**3.03**		**1.91**
Cobalt	**7440-48-4**	**0.336**		**0.0377**
Copper	**7440-50-8**	**53.3**		**2.28**
Lead	**7439-92-1**	**0.402**		**0.185**
Manganese	**7439-96-5**	**9.36**		**1.64**
Molybdenum	**7439-98-7**	**3.97**		**0.311**
Nickel	**7440-02-0**	**1.48**		**0.564**
Selenium	**7782-49-2**	**0.148**		**0.00776**
Thallium	**7440-28-0**	**7.14E-4**		**5.10E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0458**
Zinc	7440-66-6	12.0	U	66.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072824-HM
Matrix: Air
Lab ID: 4080550-17
Sample Volume: 1826.87 m³
Filter ID:
Sampled: 07/28/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 06:15

Comments: Q9539028 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0695**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.266**		**0.00834**
Barium	**7440-39-3**	**3.39**		**0.953**
Beryllium	**7440-41-7**	**0.00921**		**0.00285**
Cadmium	7440-43-9	0.0110	U	0.0660
Chromium	**7440-47-3**	**2.88**		**1.97**
Cobalt	**7440-48-4**	**0.336**		**0.0388**
Copper	**7440-50-8**	**48.2**		**2.34**
Lead	**7439-92-1**	**0.672**		**0.191**
Manganese	**7439-96-5**	**10.2**		**1.68**
Molybdenum	**7439-98-7**	**2.67**		**0.320**
Nickel	**7440-02-0**	**1.43**		**0.581**
Selenium	**7782-49-2**	**0.163**		**0.00798**
Thallium	**7440-28-0**	**6.33E-4**		**5.25E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0471**
Zinc	7440-66-6	10.4	U	68.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-072824-HM
Matrix: Air
Lab ID: 4080550-18
Sample Volume: 1933.83 m³
Filter ID:
Sampled: 07/28/24 00:05
Received: 08/05/24 10:30
Analysis Date: 08/07/24 06:30

Comments: Q9539022 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0104	SL, U	0.0325
Arsenic	7440-38-2	0.00575	U	0.00788
Barium	7440-39-3	0.524	U	0.900
Beryllium	7440-41-7	7.27E-4	U	0.00269
Cadmium	7440-43-9	0.00157	U	0.0623
Chromium	7440-47-3	1.20	U	1.86
Cobalt	7440-48-4	0.0240	U	0.0367
Copper	7440-50-8	0.778	U	2.21
Lead	7439-92-1	0.0414	U	0.180
Manganese	7439-96-5	0.162	U	1.59
Molybdenum	**7439-98-7**	**0.315**	FB-01	**0.302**
Nickel	7440-02-0	0.289	U	0.549
Selenium	7782-49-2	0.00383	U	0.00754
Thallium	7440-28-0	5.01E-5	U	4.96E-4
Vanadium	7440-62-2	0.0119	U	0.0445
Zinc	7440-66-6	2.81	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-072924-HM
Matrix: Air
Lab ID: 4080550-19
Sample Volume: 1947.501 m³
Filter ID:
Sampled: 07/29/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 06:44

Comments: Q9539027 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0453**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.588**		**0.00783**
Barium	**7440-39-3**	**4.29**		**0.894**
Beryllium	**7440-41-7**	**0.0139**		**0.00267**
Cadmium	7440-43-9	0.0116	U	0.0619
Chromium	**7440-47-3**	**3.62**		**1.85**
Cobalt	**7440-48-4**	**0.640**		**0.0364**
Copper	**7440-50-8**	**169**		**2.20**
Lead	**7439-92-1**	**0.316**		**0.179**
Manganese	**7439-96-5**	**15.9**		**1.58**
Molybdenum	**7439-98-7**	**7.85**		**0.300**
Nickel	**7440-02-0**	**1.59**		**0.545**
Selenium	**7782-49-2**	**0.160**		**0.00749**
Thallium	**7440-28-0**	**8.76E-4**		**4.92E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0442**
Zinc	7440-66-6	7.58	U	64.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-072924-HM
Matrix: Air
Lab ID: 4080550-20
Sample Volume: 2126.896 m³
Filter ID:
Sampled: 07/29/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 07:53

Comments: Q9539025 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.306**		**0.00717**
Barium	**7440-39-3**	**4.42**		**0.819**
Beryllium	**7440-41-7**	**0.00944**		**0.00245**
Cadmium	7440-43-9	0.00733	U	0.0567
Chromium	**7440-47-3**	**2.12**		**1.69**
Cobalt	**7440-48-4**	**0.316**		**0.0334**
Copper	**7440-50-8**	**26.4**		**2.01**
Lead	**7439-92-1**	**0.684**		**0.164**
Manganese	**7439-96-5**	**9.47**		**1.45**
Molybdenum	**7439-98-7**	**1.43**		**0.275**
Nickel	**7440-02-0**	**0.978**		**0.499**
Selenium	**7782-49-2**	**0.151**		**0.00685**
Thallium	**7440-28-0**	**6.91E-4**		**4.51E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0405**
Zinc	7440-66-6	11.8	U	58.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-072924-HM
Matrix: Air
Lab ID: 4080550-21
Sample Volume: 1836.993 m³
Filter ID:
Sampled: 07/29/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 08:07

Comments: Q9539024 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0418**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.221**		**0.00830**
Barium	**7440-39-3**	**2.00**		**0.948**
Beryllium	**7440-41-7**	**0.0151**		**0.00283**
Cadmium	7440-43-9	0.00624	U	0.0656
Chromium	**7440-47-3**	**2.38**		**1.96**
Cobalt	**7440-48-4**	**0.276**		**0.0386**
Copper	**7440-50-8**	**33.5**		**2.33**
Lead	**7439-92-1**	**0.438**		**0.190**
Manganese	**7439-96-5**	**6.93**		**1.67**
Molybdenum	**7439-98-7**	**2.67**		**0.318**
Nickel	**7440-02-0**	**0.925**		**0.577**
Selenium	**7782-49-2**	**0.123**		**0.00794**
Thallium	**7440-28-0**	**5.49E-4**		**5.22E-4**
Vanadium	**7440-62-2**	**0.789**		**0.0469**
Zinc	7440-66-6	8.31	U	68.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-072924-HM
Matrix: Air
Lab ID: 4080550-22
Sample Volume: 1907.633 m³
Filter ID:
Sampled: 07/29/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/06/24 22:28

Comments: Q9539021 - Received in good condition MS/MSD

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0796**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.432**		**0.00799**
Barium	**7440-39-3**	**3.36**		**0.913**
Beryllium	**7440-41-7**	**0.0103**		**0.00273**
Cadmium	7440-43-9	0.0114	U	0.0632
Chromium	**7440-47-3**	**2.44**		**1.88**
Cobalt	**7440-48-4**	**0.350**		**0.0372**
Copper	**7440-50-8**	**37.7**		**2.24**
Lead	**7439-92-1**	**0.946**		**0.183**
Manganese	**7439-96-5**	**11.2**		**1.61**
Molybdenum	**7439-98-7**	**2.11**		**0.306**
Nickel	**7440-02-0**	**1.06**		**0.556**
Selenium	**7782-49-2**	**0.143**		**0.00764**
Thallium	**7440-28-0**	**7.10E-4**		**5.02E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0451**
Zinc	7440-66-6	10.5	U	65.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-073024-HM
Matrix: Air
Lab ID: 4080550-23
Sample Volume: 1936.254 m³
Filter ID:
Sampled: 07/30/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 08:21

Comments: Q9539020 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0744**	SL	**0.0324**
Arsenic	**7440-38-2**	**1.15**		**0.00787**
Barium	**7440-39-3**	**7.57**		**0.899**
Beryllium	**7440-41-7**	**0.0317**		**0.00269**
Cadmium	7440-43-9	0.0191	U	0.0623
Chromium	**7440-47-3**	**6.11**		**1.86**
Cobalt	**7440-48-4**	**1.32**		**0.0366**
Copper	**7440-50-8**	**177**		**2.21**
Lead	**7439-92-1**	**0.795**		**0.180**
Manganese	**7439-96-5**	**33.8**		**1.59**
Molybdenum	**7439-98-7**	**8.71**		**0.302**
Nickel	**7440-02-0**	**3.11**		**0.548**
Selenium	**7782-49-2**	**0.214**		**0.00753**
Thallium	**7440-28-0**	**0.00160**		**4.95E-4**
Vanadium	**7440-62-2**	**3.88**		**0.0445**
Zinc	7440-66-6	15.3	U	64.5

[redacted]

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-073024-HM
Matrix: Air
Lab ID: 4080550-24
Sample Volume: 2163.08 m³
Filter ID:
Sampled: 07/30/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 08:40

Comments: Q9539019 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0777**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.293**		**0.00705**
Barium	**7440-39-3**	**4.04**		**0.805**
Beryllium	**7440-41-7**	**0.0141**		**0.00241**
Cadmium	7440-43-9	0.0355	U	0.0557
Chromium	**7440-47-3**	**2.97**		**1.66**
Cobalt	**7440-48-4**	**0.517**		**0.0328**
Copper	**7440-50-8**	**41.6**		**1.98**
Lead	**7439-92-1**	**0.657**		**0.161**
Manganese	**7439-96-5**	**15.3**		**1.42**
Molybdenum	**7439-98-7**	**2.25**		**0.270**
Nickel	**7440-02-0**	**1.45**		**0.490**
Selenium	**7782-49-2**	**0.152**		**0.00674**
Thallium	**7440-28-0**	**9.17E-4**		**4.43E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0398**
Zinc	7440-66-6	9.45	U	57.8

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-073024-HM
Matrix: Air
Lab ID: 4080550-25
Sample Volume: 1774.284 m³
Filter ID:
Sampled: 07/30/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 08:54

Comments: Q9539018 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0664**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.297**		**0.00859**
Barium	**7440-39-3**	**3.06**		**0.981**
Beryllium	**7440-41-7**	**0.0232**		**0.00293**
Cadmium	7440-43-9	0.00809	U	0.0679
Chromium	**7440-47-3**	**4.73**		**2.03**
Cobalt	**7440-48-4**	**0.518**		**0.0400**
Copper	**7440-50-8**	**37.3**		**2.41**
Lead	**7439-92-1**	**0.480**		**0.196**
Manganese	**7439-96-5**	**12.4**		**1.73**
Molybdenum	**7439-98-7**	**2.75**		**0.329**
Nickel	**7440-02-0**	**2.16**		**0.598**
Selenium	**7782-49-2**	**0.128**		**0.00822**
Thallium	**7440-28-0**	**7.17E-4**		**5.40E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0485**
Zinc	7440-66-6	13.9	U	70.4

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-073024-HM
Matrix: Air
Lab ID: 4080550-26
Sample Volume: 1991.321 m³
Filter ID:
Sampled: 07/30/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 09:07

Comments: Q9539017 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0694**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.448**		**0.00766**
Barium	**7440-39-3**	**3.69**		**0.874**
Beryllium	**7440-41-7**	**0.0168**		**0.00261**
Cadmium	7440-43-9	0.0112	U	0.0605
Chromium	**7440-47-3**	**3.05**		**1.81**
Cobalt	**7440-48-4**	**0.482**		**0.0356**
Copper	**7440-50-8**	**38.8**		**2.15**
Lead	**7439-92-1**	**0.759**		**0.175**
Manganese	**7439-96-5**	**16.0**		**1.54**
Molybdenum	**7439-98-7**	**1.88**		**0.293**
Nickel	**7440-02-0**	**1.26**		**0.533**
Selenium	**7782-49-2**	**0.146**		**0.00732**
Thallium	**7440-28-0**	**8.14E-4**		**4.81E-4**
Vanadium	**7440-62-2**	**1.26**		**0.0432**
Zinc	7440-66-6	11.1	U	62.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-073024-HM
Matrix: Air
Lab ID: 4080550-27
Sample Volume: 1936.254 m³
Filter ID:
Sampled: 07/30/24 00:05
Received: 08/05/24 10:30
Analysis Date: 08/07/24 09:35

Comments: Q9547523 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0122	SL, U	0.0324
Arsenic	7440-38-2	0.00785	U	0.00787
Barium	7440-39-3	0.421	U	0.899
Beryllium	7440-41-7	6.81E-4	U	0.00269
Cadmium	7440-43-9	0.00286	U	0.0623
Chromium	7440-47-3	1.14	U	1.86
Cobalt	7440-48-4	0.0257	U	0.0366
Copper	7440-50-8	1.11	U	2.21
Lead	7439-92-1	0.0452	U	0.180
Manganese	7439-96-5	0.232	U	1.59
Molybdenum	7439-98-7	0.207	U	0.302
Nickel	7440-02-0	0.256	U	0.548
Selenium	7782-49-2	0.00131	U	0.00753
Thallium	7440-28-0	5.96E-5	U	4.95E-4
Vanadium	7440-62-2	0.0119	U	0.0445
Zinc	7440-66-6	2.66	U	64.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-073024-HM
Matrix: Air
Lab ID: 4080550-28
Sample Volume: 1936.254 m³
Filter ID:
Sampled: 07/30/24 00:05
Received: 08/05/24 10:30
Analysis Date: 08/07/24 09:49

Comments: Q9547529 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0121	SL, U	0.0324
Arsenic	7440-38-2	0.00556	U	0.00787
Barium	7440-39-3	0.405	U	0.899
Beryllium	7440-41-7	4.36E-4	U	0.00269
Cadmium	7440-43-9	0.00257	U	0.0623
Chromium	7440-47-3	1.18	U	1.86
Cobalt	7440-48-4	0.0237	U	0.0366
Copper	7440-50-8	0.500	U	2.21
Lead	7439-92-1	0.0324	U	0.180
Manganese	7439-96-5	0.172	U	1.59
Molybdenum	7439-98-7	0.189	U	0.302
Nickel	7440-02-0	0.290	U	0.548
Selenium	7782-49-2	0.00169	U	0.00753
Thallium	7440-28-0	6.00E-5	U	4.95E-4
Vanadium	7440-62-2	0.00694	U	0.0445
Zinc	7440-66-6	2.03	U	64.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-073124-HM
Matrix: Air
Lab ID: 4080550-29
Sample Volume: 1928.176 m³
Filter ID:
Sampled: 07/31/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 10:03

Comments: Q9539016 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.169**	SL	**0.0326**
Arsenic	**7440-38-2**	**2.16**		**0.00791**
Barium	**7440-39-3**	**7.43**		**0.903**
Beryllium	**7440-41-7**	**0.0264**		**0.00270**
Cadmium	**7440-43-9**	**0.0704**		**0.0625**
Chromium	**7440-47-3**	**6.54**		**1.86**
Cobalt	**7440-48-4**	**1.32**		**0.0368**
Copper	**7440-50-8**	**159**		**2.22**
Lead	**7439-92-1**	**0.536**		**0.181**
Manganese	**7439-96-5**	**31.0**		**1.59**
Molybdenum	**7439-98-7**	**7.51**		**0.303**
Nickel	**7440-02-0**	**3.28**		**0.550**
Selenium	**7782-49-2**	**0.218**		**0.00756**
Thallium	**7440-28-0**	**0.00143**		**4.97E-4**
Vanadium	**7440-62-2**	**3.69**		**0.0446**
Zinc	7440-66-6	11.8	U	64.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-073124-HM
Matrix: Air
Lab ID: 4080550-30
Sample Volume: 2157.027 m³
Filter ID:
Sampled: 07/31/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 11:12

Comments: Q9547528 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.301**		**0.00707**
Barium	**7440-39-3**	**6.02**		**0.807**
Beryllium	**7440-41-7**	**0.0152**		**0.00241**
Cadmium	7440-43-9	0.0148	U	0.0559
Chromium	**7440-47-3**	**2.96**		**1.67**
Cobalt	**7440-48-4**	**0.588**		**0.0329**
Copper	**7440-50-8**	**37.3**		**1.98**
Lead	**7439-92-1**	**0.844**		**0.161**
Manganese	**7439-96-5**	**16.6**		**1.43**
Molybdenum	**7439-98-7**	**1.80**		**0.271**
Nickel	**7440-02-0**	**1.57**		**0.492**
Selenium	**7782-49-2**	**0.179**		**0.00676**
Thallium	**7440-28-0**	**0.00101**		**4.44E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0399**
Zinc	7440-66-6	13.3	U	57.9

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-073124-HM
Matrix: Air
Lab ID: 4080550-31
Sample Volume: 1894.09 m³
Filter ID:
Sampled: 07/31/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 11:28

Comments: Q9547526 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0726**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.270**		**0.00805**
Barium	**7440-39-3**	**4.03**		**0.919**
Beryllium	**7440-41-7**	**0.0228**		**0.00275**
Cadmium	7440-43-9	0.0127	U	0.0637
Chromium	**7440-47-3**	**3.18**		**1.90**
Cobalt	**7440-48-4**	**0.577**		**0.0375**
Copper	**7440-50-8**	**62.4**		**2.26**
Lead	**7439-92-1**	**0.525**		**0.184**
Manganese	**7439-96-5**	**13.3**		**1.62**
Molybdenum	**7439-98-7**	**4.18**		**0.308**
Nickel	**7440-02-0**	**2.64**		**0.560**
Selenium	**7782-49-2**	**0.213**		**0.00770**
Thallium	**7440-28-0**	**9.76E-4**		**5.06E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0454**
Zinc	7440-66-6	19.9	U	66.0

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-073124-HM
Matrix: Air
Lab ID: 4080550-32
Sample Volume: 1838.749 m³
Filter ID:
Sampled: 07/31/24 23:59
Received: 08/05/24 10:30
Analysis Date: 08/07/24 11:42

Comments: Q9547524 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.570**		**0.00829**
Barium	**7440-39-3**	**5.17**		**0.947**
Beryllium	**7440-41-7**	**0.0209**		**0.00283**
Cadmium	7440-43-9	0.0256	U	0.0656
Chromium	**7440-47-3**	**3.72**		**1.96**
Cobalt	**7440-48-4**	**0.705**		**0.0386**
Copper	**7440-50-8**	**41.6**		**2.33**
Lead	**7439-92-1**	**1.18**		**0.189**
Manganese	**7439-96-5**	**23.3**		**1.67**
Molybdenum	**7439-98-7**	**1.91**		**0.318**
Nickel	**7440-02-0**	**1.89**		**0.577**
Selenium	**7782-49-2**	**0.209**		**0.00793**
Thallium	**7440-28-0**	**0.00118**		**5.21E-4**
Vanadium	**7440-62-2**	**1.81**		**0.0468**
Zinc	7440-66-6	14.5	U	68.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB1)				Prepared & Analyzed: 08/06/24						
Antimony	0.771		ng/l							
Arsenic	4.25		ng/l							
Barium	0.994		ng/l							
Beryllium	-0.738		ng/l							U
Cadmium	0.136		ng/l							
Chromium	1.46		ng/l							
Cobalt	-0.0108		ng/l							U
Copper	163		ng/l							
Lead	2.17		ng/l							
Manganese	2.24		ng/l							
Molybdenum	13.8		ng/l							
Nickel	1.00		ng/l							
Selenium	4.86		ng/l							
Thallium	0.774		ng/l							
Vanadium	-82.3		ng/l							U
Zinc	-173		ng/l							U
Calibration Blank (2408018-CCB2)				Prepared & Analyzed: 08/06/24						
Antimony	0.678		ng/l							
Arsenic	2.32		ng/l							
Barium	3.43		ng/l							
Beryllium	-0.479		ng/l							U
Cadmium	0.339		ng/l							
Chromium	3.01		ng/l							
Cobalt	0.656		ng/l							
Copper	104		ng/l							
Lead	3.06		ng/l							
Manganese	6.45		ng/l							
Molybdenum	-5.73		ng/l							U
Nickel	3.70		ng/l							
Selenium	15.2		ng/l							
Thallium	0.788		ng/l							
Vanadium	-81.5		ng/l							U
Zinc	-206		ng/l							U
Calibration Blank (2408018-CCB3)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.632		ng/l							
Arsenic	4.14		ng/l							
Barium	4.78		ng/l							
Beryllium	-0.779		ng/l							U

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB3) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Cadmium	0.0255		ng/l							
Chromium	3.86		ng/l							
Cobalt	0.429		ng/l							
Copper	86.3		ng/l							
Lead	3.12		ng/l							
Manganese	6.08		ng/l							
Molybdenum	-6.84		ng/l							U
Nickel	2.48		ng/l							
Selenium	6.77		ng/l							
Thallium	0.954		ng/l							
Vanadium	-87.9		ng/l							U
Zinc	-268		ng/l							U
Calibration Blank (2408018-CCB4)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.404		ng/l							
Arsenic	8.40		ng/l							
Barium	3.33		ng/l							
Beryllium	-1.25		ng/l							U
Cadmium	0.127		ng/l							
Chromium	2.95		ng/l							
Cobalt	0.468		ng/l							
Copper	57.4		ng/l							
Lead	2.31		ng/l							
Manganese	3.77		ng/l							
Molybdenum	-6.35		ng/l							U
Nickel	4.60		ng/l							
Selenium	19.2		ng/l							
Thallium	0.835		ng/l							
Vanadium	-88.6		ng/l							U
Zinc	-265		ng/l							U
Calibration Blank (2408018-CCB5)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.264		ng/l							
Arsenic	6.22		ng/l							
Barium	2.28		ng/l							
Beryllium	-1.23		ng/l							U
Cadmium	0.388		ng/l							
Chromium	4.18		ng/l							
Cobalt	0.381		ng/l							
Copper	73.1		ng/l							

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB5) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Lead	2.52		ng/l							
Manganese	6.60		ng/l							
Molybdenum	-5.73		ng/l							U
Nickel	6.85		ng/l							
Selenium	4.45		ng/l							
Thallium	1.03		ng/l							
Vanadium	-90.0		ng/l							U
Zinc	-267		ng/l							U
Calibration Blank (2408018-CCB6)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.325		ng/l							
Arsenic	8.16		ng/l							
Barium	1.83		ng/l							
Beryllium	-1.44		ng/l							U
Cadmium	0.230		ng/l							
Chromium	4.47		ng/l							
Cobalt	0.528		ng/l							
Copper	57.0		ng/l							
Lead	1.91		ng/l							
Manganese	5.87		ng/l							
Molybdenum	-7.25		ng/l							U
Nickel	5.81		ng/l							
Selenium	-5.45		ng/l							U
Thallium	0.980		ng/l							
Vanadium	-90.1		ng/l							U
Zinc	-273		ng/l							U
Calibration Blank (2408018-CCB7)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.515		ng/l							
Arsenic	10.6		ng/l							
Barium	2.89		ng/l							
Beryllium	-1.50		ng/l							U
Cadmium	0.270		ng/l							
Chromium	4.26		ng/l							
Cobalt	0.499		ng/l							
Copper	74.2		ng/l							
Lead	1.61		ng/l							
Manganese	4.14		ng/l							
Molybdenum	-5.28		ng/l							U
Nickel	5.48		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB7) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Selenium	-0.786		ng/l							U
Thallium	1.03		ng/l							
Vanadium	-98.8		ng/l							U
Zinc	-276		ng/l							U
Calibration Check (2408018-CCV1)				Prepared & Analyzed: 08/06/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	498000		ng/l	500000		99.7	90-110			
Molybdenum	50000		ng/l	50000		99.9	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	499		ng/l	500.00		99.9	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408018-CCV2)				Prepared & Analyzed: 08/06/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	510000		ng/l	500000		102	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Check (2408018-CCV3)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2408018-CCV4)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	52500		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		105	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2408018-CCV5)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Check (2408018-CCV5) Contin					Prepared: 08/06/24 Analyzed: 08/07/24					
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	476		ng/l	500.00		95.1	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408018-CCV6)					Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5270		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	53200		ng/l	50000		106	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	489		ng/l	500.00		97.9	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2408018-CCV7)					Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5220		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Check (2408018-CCV7) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	54000		ng/l	50000		108	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2408018-HCV1)				Prepared & Analyzed: 08/06/24						
Antimony	39900		ng/l	40000		99.8	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	401000		ng/l	400000		100	95-105			
Beryllium	9960		ng/l	10000		99.6	95-105			
Cadmium	40000		ng/l	40000		99.9	95-105			
Chromium	483000		ng/l	480000		101	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.00E6		ng/l	4.0000E6		100	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40000		ng/l	40000		99.9	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	998000		ng/l	1.0000E6		99.8	95-105			
Initial Cal Blank (2408018-ICB1)				Prepared & Analyzed: 08/06/24						
Antimony	4.43		ng/l							
Arsenic	-0.793		ng/l							U
Barium	6.15		ng/l							
Beryllium	-0.0591		ng/l							U
Cadmium	0.420		ng/l							
Chromium	8.62		ng/l							
Cobalt	1.43		ng/l							
Copper	282		ng/l							
Lead	23.7		ng/l							
Manganese	19.8		ng/l							
Molybdenum	26.7		ng/l							
Nickel	3.70		ng/l							

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Initial Cal Blank (2408018-ICB1) Continu				Prepared & Analyzed: 08/06/24						
Selenium	5.90		ng/l							
Thallium	0.775		ng/l							
Vanadium	-88.7		ng/l							U
Zinc	-201		ng/l							U
Initial Cal Check (2408018-ICV1)				Prepared & Analyzed: 08/06/24						
Antimony	19500		ng/l	20000		97.6	90-110			
Arsenic	19500		ng/l	20000		97.6	90-110			
Barium	194000		ng/l	200000		96.9	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Interference Check A (2408018-IFA1)				Prepared & Analyzed: 08/06/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	318000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2408018 - B4H0605

Interference Check B (2408018-IFB1) Prepared & Analyzed: 08/06/24

Antimony	20200		ng/l	20000		101	80-120		
Arsenic	20500		ng/l	20000		103	80-120		
Barium	202000		ng/l	200000		101	80-120		
Beryllium	4920		ng/l	5000.0		98.4	80-120		
Cadmium	19800		ng/l	20000		98.8	80-120		
Chromium	232000		ng/l	240000		96.8	80-120		
Cobalt	50000		ng/l	50000		100	80-120		
Copper	1.93E6		ng/l	2.0000E6		96.5	80-120		
Lead	206000		ng/l	200000		103	80-120		
Manganese	499000		ng/l	500000		99.8	80-120		
Molybdenum	370000		ng/l	350000		106	80-120		
Nickel	117000		ng/l	120000		97.6	80-120		
Selenium	19000		ng/l	20000		95.1	80-120		
Thallium	520		ng/l	500.00		104	80-120		
Vanadium	18700		ng/l	20000		93.4	80-120		
Zinc	470000		ng/l	500000		93.9	80-120		

Batch B4H0605 - ICP-MS Extraction

Blank (B4H0605-BLK1) Prepared & Analyzed: 08/06/24

Antimony	ND	0.0386	ng/m³ Air						SL, U
Arsenic	ND	0.00937	ng/m³ Air						U
Barium	ND	1.07	ng/m³ Air						U
Beryllium	ND	0.00320	ng/m³ Air						U
Cadmium	ND	0.0741	ng/m³ Air						U
Chromium	ND	2.21	ng/m³ Air						U
Cobalt	ND	0.0436	ng/m³ Air						U
Copper	ND	2.63	ng/m³ Air						U
Lead	ND	0.214	ng/m³ Air						U
Manganese	ND	1.89	ng/m³ Air						U
Molybdenum	ND	0.359	ng/m³ Air						U
Nickel	ND	0.652	ng/m³ Air						U
Selenium	ND	0.00896	ng/m³ Air						U
Thallium	ND	5.89E-4	ng/m³ Air						U
Vanadium	ND	0.0529	ng/m³ Air						U
Zinc	ND	76.8	ng/m³ Air						U

Blank (B4H0605-BLK2) Prepared & Analyzed: 08/06/24

Antimony	ND	0.0386	ng/m³ Air						SL, U
Arsenic	ND	0.00937	ng/m³ Air						U
Barium	ND	1.07	ng/m³ Air						U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Blank (B4H0605-BLK2) Continued					Prepared & Analyzed: 08/06/24					
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4H0605-BS1)					Prepared & Analyzed: 08/06/24					
Antimony	0.530	0.0386	ng/m³ Air	1.3829		38.4	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.6	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.11	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.6	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.2	80-120			
Zinc	87.5	76.8	ng/m³ Air	82.975		105	80-120			
LCS (B4H0605-BS2)					Prepared & Analyzed: 08/06/24					
Antimony	0.526	0.0386	ng/m³ Air	1.3829		38.1	80-120			SL
Arsenic	2.76	0.00937	ng/m³ Air	2.7658		99.9	80-120			
Barium	29.2	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.2	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	16.2	2.21	ng/m³ Air	13.829		117	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
LCS (B4H0605-BS2) Continued					Prepared & Analyzed: 08/06/24					
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.66	0.359	ng/m³ Air	1.3829		120	80-120			
Nickel	3.23	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.4	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.2	80-120			
Vanadium	2.83	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	89.7	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4H0605-DUP1)					**Source: 4080550-02** Prepared & Analyzed: 08/06/24					
Antimony	0.169	0.0295	ng/m³ Air		0.172			1.43	10	SL
Arsenic	0.370	0.00717	ng/m³ Air		0.357			3.55	10	
Barium	4.61	0.819	ng/m³ Air		4.56			1.05	10	
Beryllium	0.0166	0.00245	ng/m³ Air		0.0158			4.58	10	
Cadmium	ND	0.0567	ng/m³ Air		ND				10	U
Chromium	2.68	1.69	ng/m³ Air		2.53			5.56	10	
Cobalt	0.485	0.0334	ng/m³ Air		0.476			1.93	10	
Copper	35.3	2.01	ng/m³ Air		34.5			2.29	10	
Lead	1.20	0.164	ng/m³ Air		1.12			6.47	10	
Manganese	15.1	1.45	ng/m³ Air		14.9			1.61	10	
Molybdenum	1.89	0.275	ng/m³ Air		1.94			2.49	10	
Nickel	1.43	0.499	ng/m³ Air		1.36			4.89	10	
Selenium	0.350	0.00685	ng/m³ Air		0.340			2.96	10	
Thallium	0.00240	4.51E-4	ng/m³ Air		0.00253			5.36	10	
Vanadium	1.75	0.0405	ng/m³ Air		1.74			0.407	10	
Zinc	ND	58.7	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP2)					**Source: 4080550-22** Prepared & Analyzed: 08/06/24					
Antimony	0.0923	0.0329	ng/m³ Air		0.0796			14.8	10	SL
Arsenic	0.443	0.00799	ng/m³ Air		0.432			2.59	10	
Barium	3.27	0.913	ng/m³ Air		3.36			2.77	10	
Beryllium	0.00973	0.00273	ng/m³ Air		0.0103			6.12	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	2.51	1.88	ng/m³ Air		2.44			3.19	10	
Cobalt	0.357	0.0372	ng/m³ Air		0.350			2.02	10	
Copper	39.6	2.24	ng/m³ Air		37.7			4.88	10	
Lead	0.859	0.183	ng/m³ Air		0.946			9.65	10	
Manganese	11.5	1.61	ng/m³ Air		11.2			2.56	10	
Molybdenum	2.22	0.306	ng/m³ Air		2.11			5.41	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Duplicate (B4H0605-DUP2) Continued			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Nickel	1.03	0.556	ng/m³ Air		1.06			2.76	10	
Selenium	0.147	0.00764	ng/m³ Air		0.143			2.70	10	
Thallium	6.66E-4	5.02E-4	ng/m³ Air		7.10E-4			6.37	10	
Vanadium	1.01	0.0451	ng/m³ Air		1.01			0.868	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP3)			**Source: 4080550-14**		Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	0.0577	0.0325	ng/m³ Air		0.0586			1.61	10	SL
Arsenic	0.388	0.00788	ng/m³ Air		0.380			2.09	10	
Barium	3.25	0.900	ng/m³ Air		3.23			0.567	10	
Beryllium	0.0104	0.00269	ng/m³ Air		0.00996			4.40	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	2.47	1.86	ng/m³ Air		2.47			0.194	10	
Cobalt	0.336	0.0367	ng/m³ Air		0.336			0.0921	10	
Copper	194	2.21	ng/m³ Air		194			0.155	10	
Lead	0.264	0.180	ng/m³ Air		0.266			0.704	10	
Manganese	10.0	1.59	ng/m³ Air		10.0			0.385	10	
Molybdenum	8.97	0.302	ng/m³ Air		9.01			0.510	10	
Nickel	1.12	0.549	ng/m³ Air		1.12			0.248	10	
Selenium	0.141	0.00754	ng/m³ Air		0.142			0.412	10	
Thallium	6.57E-4	4.96E-4	ng/m³ Air		6.67E-4			1.65	10	
Vanadium	1.25	0.0445	ng/m³ Air		1.25			0.00673	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP4)			**Source: 4080550-26**		Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	0.0698	0.0315	ng/m³ Air		0.0694			0.601	10	SL
Arsenic	0.454	0.00766	ng/m³ Air		0.448			1.25	10	
Barium	3.77	0.874	ng/m³ Air		3.69			2.07	10	
Beryllium	0.0171	0.00261	ng/m³ Air		0.0168			1.94	10	
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	3.08	1.81	ng/m³ Air		3.05			0.838	10	
Cobalt	0.482	0.0356	ng/m³ Air		0.482			0.0429	10	
Copper	39.0	2.15	ng/m³ Air		38.8			0.599	10	
Lead	0.765	0.175	ng/m³ Air		0.759			0.755	10	
Manganese	16.0	1.54	ng/m³ Air		16.0			0.123	10	
Molybdenum	1.89	0.293	ng/m³ Air		1.88			0.445	10	
Nickel	1.27	0.533	ng/m³ Air		1.26			0.588	10	
Selenium	0.151	0.00732	ng/m³ Air		0.146			3.13	10	
Thallium	8.27E-4	4.81E-4	ng/m³ Air		8.14E-4			1.59	10	
Vanadium	1.26	0.0432	ng/m³ Air		1.26			0.186	10	

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Duplicate (B4H0605-DUP4) Continued		**Source: 4080550-26**		Prepared: 08/06/24 Analyzed: 08/07/24						
Zinc	ND	62.7	ng/m³ Air		ND				10	U
Matrix Spike (B4H0605-MS1)		**Source: 4080550-02**		Prepared & Analyzed: 08/06/24						
Antimony	0.698	0.0295	ng/m³ Air	1.0579	0.172	49.8	80-120			SL
Arsenic	2.40	0.00717	ng/m³ Air	2.1158	0.357	96.5	80-120			
Barium	25.8	0.819	ng/m³ Air	21.158	4.56	100	80-120			
Beryllium	1.05	0.00245	ng/m³ Air	1.0579	0.0158	98.0	80-120			
Cadmium	1.04	0.0567	ng/m³ Air	1.0579	ND	98.1	80-120			
Chromium	12.8	1.69	ng/m³ Air	10.579	2.53	97.2	80-120			
Cobalt	1.47	0.0334	ng/m³ Air	1.0579	0.476	94.4	80-120			
Copper	56.7	2.01	ng/m³ Air	21.158	34.5	105	80-120			
Lead	11.8	0.164	ng/m³ Air	10.579	1.12	101	80-120			
Manganese	21.1	1.45	ng/m³ Air	6.3473	14.9	98.1	80-120			
Molybdenum	2.97	0.275	ng/m³ Air	1.0579	1.94	97.4	80-120			
Nickel	3.42	0.499	ng/m³ Air	2.1158	1.36	97.1	80-120			
Selenium	2.34	0.00685	ng/m³ Air	2.1158	0.340	94.7	80-120			
Thallium	0.104	4.51E-4	ng/m³ Air	0.10579	0.00253	96.1	80-120			
Vanadium	3.73	0.0405	ng/m³ Air	2.1158	1.74	94.2	80-120			
Zinc	76.6	58.7	ng/m³ Air	63.473	ND	121	80-120			
Matrix Spike (B4H0605-MS2)		**Source: 4080550-22**		Prepared & Analyzed: 08/06/24						
Antimony	0.760	0.0329	ng/m³ Air	1.1795	0.0796	57.7	80-120			SL
Arsenic	2.72	0.00799	ng/m³ Air	2.3589	0.432	97.1	80-120			
Barium	26.8	0.913	ng/m³ Air	23.589	3.36	99.6	80-120			
Beryllium	1.16	0.00273	ng/m³ Air	1.1795	0.0103	97.4	80-120			
Cadmium	1.18	0.0632	ng/m³ Air	1.1795	ND	100	80-120			
Chromium	14.4	1.88	ng/m³ Air	11.795	2.44	101	80-120			
Cobalt	1.47	0.0372	ng/m³ Air	1.1795	0.350	94.9	80-120			
Copper	61.9	2.24	ng/m³ Air	23.589	37.7	103	80-120			
Lead	12.9	0.183	ng/m³ Air	11.795	0.946	101	80-120			
Manganese	18.1	1.61	ng/m³ Air	7.0768	11.2	97.1	80-120			
Molybdenum	3.25	0.306	ng/m³ Air	1.1795	2.11	97.3	80-120			
Nickel	3.37	0.556	ng/m³ Air	2.3589	1.06	98.0	80-120			
Selenium	2.42	0.00764	ng/m³ Air	2.3589	0.143	96.3	80-120			
Thallium	0.116	5.02E-4	ng/m³ Air	0.11795	7.10E-4	98.0	80-120			
Vanadium	3.31	0.0451	ng/m³ Air	2.3589	1.01	97.6	80-120			
Zinc	83.6	65.5	ng/m³ Air	70.768	ND	118	80-120			
Matrix Spike Dup (B4H0605-MSD1)		**Source: 4080550-02**		Prepared & Analyzed: 08/06/24						
Antimony	0.702	0.0295	ng/m³ Air	1.0579	0.172	50.1	80-120	0.512	20	SL
Arsenic	2.40	0.00717	ng/m³ Air	2.1158	0.357	96.3	80-120	0.194	20	

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Matrix Spike Dup (B4H0605-MSD1) Conti			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Barium	25.5	0.819	ng/m³ Air	21.158	4.56	99.0	80-120	0.992	20	
Beryllium	1.06	0.00245	ng/m³ Air	1.0579	0.0158	98.4	80-120	0.349	20	
Cadmium	1.04	0.0567	ng/m³ Air	1.0579	ND	98.2	80-120	0.0365	20	
Chromium	12.9	1.69	ng/m³ Air	10.579	2.53	97.9	80-120	0.545	20	
Cobalt	1.47	0.0334	ng/m³ Air	1.0579	0.476	93.6	80-120	0.603	20	
Copper	56.2	2.01	ng/m³ Air	21.158	34.5	103	80-120	0.900	20	
Lead	11.8	0.164	ng/m³ Air	10.579	1.12	100	80-120	0.215	20	
Manganese	20.2	1.45	ng/m³ Air	6.3473	14.9	83.2	80-120	4.57	20	
Molybdenum	2.91	0.275	ng/m³ Air	1.0579	1.94	91.5	80-120	2.11	20	
Nickel	3.42	0.499	ng/m³ Air	2.1158	1.36	97.3	80-120	0.0939	20	
Selenium	2.34	0.00685	ng/m³ Air	2.1158	0.340	94.6	80-120	0.157	20	
Thallium	0.105	4.51E-4	ng/m³ Air	0.10579	0.00253	96.7	80-120	0.610	20	
Vanadium	3.68	0.0405	ng/m³ Air	2.1158	1.74	91.7	80-120	1.42	20	
Zinc	75.9	58.7	ng/m³ Air	63.473	ND	120	80-120	0.952	20	
Matrix Spike Dup (B4H0605-MSD2)			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Antimony	0.681	0.0329	ng/m³ Air	1.1795	0.0796	51.0	80-120	11.0	20	SL
Arsenic	2.71	0.00799	ng/m³ Air	2.3589	0.432	96.6	80-120	0.506	20	
Barium	26.7	0.913	ng/m³ Air	23.589	3.36	98.8	80-120	0.711	20	
Beryllium	1.15	0.00273	ng/m³ Air	1.1795	0.0103	97.0	80-120	0.398	20	
Cadmium	1.17	0.0632	ng/m³ Air	1.1795	ND	99.1	80-120	0.866	20	
Chromium	14.3	1.88	ng/m³ Air	11.795	2.44	101	80-120	0.281	20	
Cobalt	1.50	0.0372	ng/m³ Air	1.1795	0.350	97.4	80-120	2.00	20	
Copper	62.9	2.24	ng/m³ Air	23.589	37.7	107	80-120	1.57	20	
Lead	13.0	0.183	ng/m³ Air	11.795	0.946	102	80-120	0.965	20	
Manganese	18.5	1.61	ng/m³ Air	7.0768	11.2	102	80-120	2.09	20	
Molybdenum	3.23	0.306	ng/m³ Air	1.1795	2.11	95.5	80-120	0.678	20	
Nickel	3.47	0.556	ng/m³ Air	2.3589	1.06	102	80-120	2.78	20	
Selenium	2.39	0.00764	ng/m³ Air	2.3589	0.143	95.2	80-120	1.14	20	
Thallium	0.115	5.02E-4	ng/m³ Air	0.11795	7.10E-4	96.7	80-120	1.29	20	
Vanadium	3.31	0.0451	ng/m³ Air	2.3589	1.01	97.9	80-120	0.179	20	
Zinc	82.1	65.5	ng/m³ Air	70.768	ND	116	80-120	1.82	20	
Post Spike (B4H0605-PS1)			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Antimony	0.386	0.0295	ng/m³ Air	0.21158	0.172	101	75-125			SL
Arsenic	1.39	0.00717	ng/m³ Air	1.0579	0.357	97.2	75-125			
Barium	6.74	0.819	ng/m³ Air	2.1158	4.56	103	75-125			
Beryllium	0.224	0.00245	ng/m³ Air	0.21158	0.0158	98.6	75-125			
Cadmium	0.123	0.0567	ng/m³ Air	0.10579	ND	117	75-125			
Chromium	3.64	1.69	ng/m³ Air	1.0579	2.53	105	75-125			

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[redacted]

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Post Spike (B4H0605-PS1) Continued			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Cobalt	0.700	0.0334	ng/m³ Air	0.21158	0.476	106	75-125			
Copper	46.8	2.01	ng/m³ Air	10.579	34.5	117	75-125			
Lead	22.9	0.164	ng/m³ Air	21.158	1.12	103	75-125			
Manganese	17.4	1.45	ng/m³ Air	2.1158	14.9	117	75-125			
Molybdenum	3.03	0.275	ng/m³ Air	1.0579	1.94	103	75-125			
Nickel	3.56	0.499	ng/m³ Air	2.1158	1.36	104	75-125			
Selenium	1.38	0.00685	ng/m³ Air	1.0579	0.340	98.6	75-125			
Thallium	0.0550	4.51E-4	ng/m³ Air	5.2894E-2	0.00253	99.2	75-125			
Vanadium	2.79	0.0405	ng/m³ Air	1.0579	1.74	99.1	75-125			
Zinc	ND	58.7	ng/m³ Air	21.158	ND		75-125			U
Post Spike (B4H0605-PS2)			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Antimony	0.307	0.0329	ng/m³ Air	0.23589	0.0796	96.4	75-125			SL
Arsenic	1.55	0.00799	ng/m³ Air	1.1795	0.432	94.4	75-125			
Barium	5.66	0.913	ng/m³ Air	2.3589	3.36	97.5	75-125			
Beryllium	0.240	0.00273	ng/m³ Air	0.23589	0.0103	97.2	75-125			
Cadmium	0.128	0.0632	ng/m³ Air	0.11795	ND	109	75-125			
Chromium	3.58	1.88	ng/m³ Air	1.1795	2.44	97.2	75-125			
Cobalt	0.575	0.0372	ng/m³ Air	0.23589	0.350	95.2	75-125			
Copper	50.1	2.24	ng/m³ Air	11.795	37.7	105	75-125			
Lead	24.6	0.183	ng/m³ Air	23.589	0.946	100	75-125			
Manganese	13.5	1.61	ng/m³ Air	2.3589	11.2	95.2	75-125			
Molybdenum	3.25	0.306	ng/m³ Air	1.1795	2.11	97.4	75-125			
Nickel	3.42	0.556	ng/m³ Air	2.3589	1.06	100	75-125			
Selenium	1.29	0.00764	ng/m³ Air	1.1795	0.143	97.0	75-125			
Thallium	0.0583	5.02E-4	ng/m³ Air	5.8974E-2	7.10E-4	97.6	75-125			
Vanadium	2.14	0.0451	ng/m³ Air	1.1795	1.01	96.2	75-125			
Zinc	ND	65.5	ng/m³ Air	23.589	ND		75-125			U
Dilution Check (B4H0605-SRL1)			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Antimony	0.170	0.148	ng/m³ Air		0.172			0.904	10	SL
Arsenic	0.366	0.0358	ng/m³ Air		0.357			2.28	10	
Barium	4.62	4.09	ng/m³ Air		4.56			1.22	10	
Beryllium	0.0168	0.0122	ng/m³ Air		0.0158			5.87	10	
Cadmium	ND	0.283	ng/m³ Air		ND				10	U
Chromium	ND	8.45	ng/m³ Air		ND				10	U
Cobalt	0.486	0.167	ng/m³ Air		0.476			2.04	10	
Copper	36.0	10.1	ng/m³ Air		34.5			4.35	10	
Lead	1.10	0.819	ng/m³ Air		1.12			1.83	10	
Manganese	15.6	7.23	ng/m³ Air		14.9			4.40	10	

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Dilution Check (B4H0605-SRL1) Continue				**Source: 4080550-02**		Prepared & Analyzed: 08/06/24				
Molybdenum	1.97	1.37	ng/m³ Air		1.94			1.22	10	
Nickel	ND	2.49	ng/m³ Air		ND				10	U
Selenium	0.342	0.0343	ng/m³ Air		0.340			0.506	10	
Thallium	0.00391	0.00225	ng/m³ Air		0.00253			43.0	10	
Vanadium	1.71	0.202	ng/m³ Air		1.74			1.84	10	
Zinc	ND	294	ng/m³ Air		ND				10	U
Dilution Check (B4H0605-SRL2)				**Source: 4080550-22**		Prepared & Analyzed: 08/06/24				
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.446	0.0400	ng/m³ Air		0.432			3.18	10	
Barium	ND	4.56	ng/m³ Air		ND				10	U
Beryllium	ND	0.0136	ng/m³ Air		ND				10	U
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.42	ng/m³ Air		ND				10	U
Cobalt	0.357	0.186	ng/m³ Air		0.350			1.83	10	
Copper	38.1	11.2	ng/m³ Air		37.7			1.05	10	
Lead	0.943	0.913	ng/m³ Air		0.946			0.377	10	
Manganese	11.3	8.06	ng/m³ Air		11.2			0.804	10	
Molybdenum	2.11	1.53	ng/m³ Air		2.11			0.273	10	
Nickel	ND	2.78	ng/m³ Air		ND				10	U
Selenium	0.141	0.0382	ng/m³ Air		0.143			1.45	10	
Thallium	ND	0.00251	ng/m³ Air		ND				10	U
Vanadium	0.982	0.226	ng/m³ Air		1.01			2.35	10	
Zinc	ND	328	ng/m³ Air		ND				10	U

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/14/2024 and Shanna Vasser 08/15/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 03/04/2024 and 07/25/2024 – 07/31/2024
Report No: 4080550

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for molybdenum in MFL-FB01-072824-HM.

Notes:

7. Sample MFL-AM01-030424-HM (originally reported with SDG 4031151) was re-extracted and re-analyzed at a two-fold dilution for nickel and reported in this data package.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

August 1 through August 7, 2024
[Report Updated: September 24, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from August 1 through August 7, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was conducted at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 1 through August 7 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$) screening level.

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

Daily air sampling at all four community locations accorded with the CAMSP. Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 $\mu g/m^3$ screening level, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected throughout this reporting period. All analytical

results for asbestos were below the SSAL of 0.003 structures per cubic centimeter (s/cc) and below the laboratory's analytical sensitivity (see **Table 2**).

In addition, all ambient air samples from all four community sampling locations yielded low levels of metals; all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally south-southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA Environmental Response Team (ERT) SOPs 2008, "General Air Monitoring and Sampling Guidelines," and 2015 "Asbestos Air Sampling," included in the CAMSP.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook."

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 1 through August 7, 2024
[Report Updated: September 24, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/1/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	10
8/2/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	15
8/3/2024	Leialii Hawaiian Homelands (AM-01)	6.8
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	11
8/4/2024	Leialii Hawaiian Homelands (AM-01)	6.5
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	13
8/5/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	17
	Lahaina Boys & Girls Club (AM-04)	15
8/6/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.6
8/7/2024	Leialii Hawaiian Homelands (AM-01)	8.7
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	9.0
	Lahaina Boys & Girls Club (AM-04)	9.4

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 1 through August 7, 2024
[Report Updated: September 24, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
8/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000532	0.000492	0.00538	0.0000203	ND	0.00444	0.000859	0.143	0.000761	0.0214	0.00723	0.00225	0.000188	0.00000171	0.00273	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000110	0.000430	0.00587	0.0000206	ND	0.00350	0.000765	0.0322	0.000898	0.0254	0.00147	0.00192	0.000205	0.00000183	0.00213	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000628	0.000256	0.00351	0.0000283	ND	0.00294	0.000519	0.0565	0.000759	0.0124	0.00309	0.00170	0.000164	0.00000128	0.00140	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000872	0.000354	0.00385	0.0000147	ND	0.00340	0.000549	0.0384	0.000798	0.0168	0.00200	0.00152	0.000174	0.00000129	0.00154	ND
8/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000513	0.000369	0.00426	0.0000172	ND	0.00401	0.000757	0.124	0.000390	0.0184	0.00637	0.00213	0.000196	0.00000147	0.00228	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000815	0.000323	0.00376	0.0000126	ND	0.00221	0.000339	0.0405	0.00106	0.0114	0.00195	0.00105	0.000197	0.00000131	0.00117	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000523	0.000179	0.00259	0.0000205	ND	0.00248	0.000443	0.0429	0.000381	0.0112	0.00238	0.00161	0.000159	0.00000108	0.00102	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000785	0.000252	0.00285	0.0000105	ND	0.00623	0.000444	0.0368	0.00055	0.0123	0.00204	0.00368	0.000168	0.00000115	0.00106	ND
8/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000500	0.000399	0.00471	0.0000192	ND	0.00439	0.000933	0.131	0.000351	0.0208	0.00676	0.00279	0.000185	0.00000128	0.00268	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000111	0.000260	0.00334	0.0000101	ND	0.00199	0.000290	0.0568	0.000842	0.00920	0.00189	0.00103	0.000169	0.000000956	0.00125	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000575	0.000162	0.00255	0.0000130	0.000126	0.0270	0.000628	0.0821	0.00109	0.0111	0.00378	0.0124	0.000172	0.00000107	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000899	0.000246	0.00239	0.00000881	ND	0.00284	0.000295	0.0357	0.000495	0.00920	0.00178	0.00141	0.000152	0.000000757	0.00111	ND
8/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000513	0.000398	0.00311	0.0000107	ND	0.00313	0.000488	0.216	0.000302	0.0117	0.0113	0.00144	0.000140	0.000000795	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000195	0.000628	0.0222	0.0000315	0.0000632	0.00396	0.000789	0.0706	0.00216	0.0263	0.00197	0.00234	0.000228	0.00000148	0.00266	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000432	0.000105	0.00180	0.00000786	ND	ND	0.000212	0.0418	0.000430	0.00415	0.00194	0.000815	0.000102	ND	0.000528	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000116	0.000183	0.00207	0.00000655	ND	0.00310	0.000241	0.0603	0.000679	0.00664	0.00222	0.00149	0.000125	0.000000673	0.000690	ND
8/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000500	0.000394	0.00409	0.0000129	ND	0.00348	0.000550	0.195	0.000296	0.0131	0.00979	0.00164	0.000175	0.000000847	0.00182	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000265	0.000341	0.00378	0.0000107	ND	0.00226	0.000322	0.0456	0.000909	0.00945	0.00191	0.00114	0.000186	0.000000791	0.00122	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000357	0.000130	0.00399	0.0000118	ND	0.00195	0.000239	0.0384	0.000307	0.00618	0.00195	0.000863	0.000130	0.000000716	0.000764	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000823	0.000199	0.00243	0.00000935	ND	0.00241	0.000282	0.0571	0.000461	0.00852	0.00202	0.00130	0.000146	0.000000779	0.000897	ND
8/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000458	0.000477	0.00542	0.0000217	ND	0.00445	0.000921	0.247	0.000318	0.0224	0.0120	0.00221	0.000195	0.00000125	0.00283	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000124	0.000448	0.00531	0.0000144	ND	0.00254	0.000433	0.0446	0.000825	0.0125	0.00182	0.00125	0.000190	0.000000999	0.00148	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000471	0.000222	0.00327	0.0000332	ND	0.00389	0.000667	0.0511	0.000456	0.0165	0.00235	0.00228	0.000185	0.00000114	0.00159	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000940	0.000351	0.00338	0.0000105	ND	0.00317	0.000400	0.0349	0.000508	0.0109	0.00178	0.00236	0.000176	0.000000878	0.00105	ND
8/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000374	0.000647	0.00736	0.0000258	ND	0.00582	0.00128	0.295	0.000355	0.0286	0.0128	0.00301	0.000246	0.00000149	0.00366	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000187	0.000319	0.00629	0.0000174	ND	0.00283	0.000552	0.0435	0.000892	0.0160	0.00211	0.00143	0.000222	0.00000116	0.00170	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000456	0.000189	0.00290	0.0000263	ND	0.00280	0.000484	0.0406	0.000317	0.0123	0.00223	0.00128	0.000178	0.00000107	0.00123	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000922	0.000660	0.00409	0.0000215	ND	0.00338	0.000631	0.0319	0.000819	0.0189	0.00183	0.00154	0.000216	0.00000128	0.00156	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000400	0.00522	0.0000200	NA	0.00479	0.000650	0.106	0.000790	0.0172	0.00503	0.00248	0.000190	0.00000120	0.00190	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m^3 = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
August 1 through August 7, 2024
[Report Updated: September 24, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/1/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	86	56	760.7
8/1/2024	AM-02	WW Pump Station #4	1.1	SSE	83	62	762.8
8/1/2024	AM-03	Lahaina Intermediate School	1.3	ESE	80	60	753.3
8/1/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	64	762.4
8/2/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	84	65	761.7
8/2/2024	AM-02	WW Pump Station #4	1.0	SSE	83	71	763.8
8/2/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	69	754.3
8/2/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	71	763.3
8/3/2024	AM-01	Leialii Hawaiian Homelands	1.0	S	87	64	762.1
8/3/2024	AM-02	WW Pump Station #4	1.0	SSE	84	71	764.2
8/3/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	69	754.7
8/3/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	80	72	763.8
8/4/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	87	61	761.4
8/4/2024	AM-02	WW Pump Station #4	1.0	SSE	84	67	763.5
8/4/2024	AM-03	Lahaina Intermediate School	1.0	ESE	81	64	753.9
8/4/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	69	763.0
8/5/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	88	60	761.1
8/5/2024	AM-02	WW Pump Station #4	1.1	SSE	84	69	763.2
8/5/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	66	753.7
8/5/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	69	762.7
8/6/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	87	57	761.2
8/6/2024	AM-02	WW Pump Station #4	1.2	SSE	84	66	763.2
8/6/2024	AM-03	Lahaina Intermediate School	1.1	ESE	81	63	753.7
8/6/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	79	66	762.8
8/7/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	87	56	761.3
8/7/2024	AM-02	WW Pump Station #4	1.1	SSE	84	63	763.3
8/7/2024	AM-03	Lahaina Intermediate School	1.2	ESE	81	60	753.8
8/7/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	64	762.9

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-080124-AB**	**Sample Description:**	**DL246222**
EMSL Sample Number:	042416395-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7182.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0001 **Customer Sample:** MFL-AM01-080124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	D7	None Detected									
A1	F9	None Detected									
A1	I8	None Detected									
A2	H2	None Detected									
A2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-080124-AB**		**Sample Description:**	**DL246368**
EMSL Sample Number:	042416395-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0002 **Customer Sample:** MFL-AM02-080124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B6	None Detected									
A5	D4	None Detected									
A5	F3	None Detected									
A6	C3	None Detected									
A6	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-080124-AB**		**Sample Description:**	**DL246198**
EMSL Sample Number:	042416395-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0003 **Customer Sample:** MFL-AM03-080124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	C4	None Detected									
B2	F7	None Detected									
B2	H5	None Detected									
B3	C3	None Detected									
B3	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-080124-AB**		**Sample Description:**	**DL246627**
EMSL Sample Number:	042416395-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0004 **Customer Sample:** MFL-AM04-080124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A5	None Detected									
B5	D8	None Detected									
B5	G5	None Detected									
B6	H7	None Detected									
B6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080124-AB** **Sample Description:** **DL246376**

EMSL Sample Number:	042416395-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0005 **Customer Sample:** MFL-FB01-080124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A3	None Detected									
C2	C3	None Detected									
C2	E3	None Detected									
C2	G4	None Detected									
C2	I3	None Detected									
C6	J9	None Detected									
C6	H3	None Detected									
C6	F4	None Detected									
C6	D5	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-080224-AB**		**Sample Description:**	**DL246618**
EMSL Sample Number:	042416395-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0006 **Customer Sample:** MFL-AM01-080224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B2	None Detected									
C5	D7	None Detected									
C5	G5	None Detected									
C6	D6	None Detected									
C6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-080224-AB**		**Sample Description:**	**DL246190**
EMSL Sample Number:	042416395-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0007 **Customer Sample:** MFL-AM02-080224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A9	None Detected									
D1	D6	None Detected									
D1	G4	None Detected									
D2	C9	None Detected									
D2	F9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-080224-AB**		**Sample Description:**	**DL246549**
EMSL Sample Number:	042416395-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0008 **Customer Sample:** MFL-AM03-080224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	H3	None Detected									
D5	E4	None Detected									
D5	C6	None Detected									
D6	I6	None Detected									
D6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-080224-AB**		**Sample Description:**	**DL246225**
EMSL Sample Number:	042416395-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0009 **Customer Sample:** MFL-AM04-080224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H10	None Detected									
E1	F7	None Detected									
E1	D8	None Detected									
E2	D3	None Detected									
E2	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-080224-AB**		**Sample Description:**	**DL246215**
EMSL Sample Number:	042416395-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0010 **Customer Sample:** MFL-FB01-080224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A4	None Detected									
E5	C5	None Detected									
E5	E2	None Detected									
E5	G8	None Detected									
E5	I8	None Detected									
E6	J8	None Detected									
E6	H4	None Detected									
E6	F8	None Detected									
E6	D10	None Detected									
E6	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-080324-AB**		**Sample Description:**	**DL246246**
EMSL Sample Number:	042416395-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0011 **Customer Sample:** MFL-AM01-080324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	G8	None Detected									
F1	D3	None Detected									
F1	A1	None Detected									
F2	I3	None Detected									
F2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

Attn: **Chelsea Saber**
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-080324-AB**	**Sample Description:**	**DL246209**
EMSL Sample Number:	042416395-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7241.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0012 **Customer Sample:** MFL-AM02-080324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	C10	None Detected									
F5	G8	None Detected									
F5	I5	None Detected									
F6	A5	None Detected									
F6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-080324-AB**		**Sample Description:**	**DL246504**
EMSL Sample Number:	042416395-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0013 **Customer Sample:** MFL-AM03-080324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	F3	None Detected									
G1	D2	None Detected									
G1	A6	None Detected									
G2	I6	None Detected									
G2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-080324-AB**		**Sample Description:**	**DL246645**
EMSL Sample Number:	042416395-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0014 **Customer Sample:** MFL-AM04-080324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I6	None Detected									
G5	F4	None Detected									
G5	C2	None Detected									
G6	H2	None Detected									
G6	C1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
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Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080324-AB** **Sample Description:** **DL246191**

EMSL Sample Number:	042416395-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0015 **Customer Sample:** MFL-FB01-080324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A9	None Detected									
H1	C7	None Detected									
H1	E7	None Detected									
H1	G6	None Detected									
H1	I5	None Detected									
H2	A8	None Detected									
H2	C9	None Detected									
H2	E7	None Detected									
H2	G8	None Detected									
H2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-080424-AB**		**Sample Description:**	**DL246370**
EMSL Sample Number:	042416395-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0016 **Customer Sample:** MFL-AM01-080424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B4	None Detected									
H5	D3	None Detected									
H5	G5	None Detected									
H6	H7	None Detected									
H6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-080424-AB**	**Sample Description:**	**DL246439**
EMSL Sample Number:	042416395-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7258.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0017 **Customer Sample:** MFL-AM02-080424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	I8	None Detected									
I1	G4	None Detected									
I1	C5	None Detected									
I2	C5	None Detected									
I2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-080424-AB**		**Sample Description:**	**DL246195**
EMSL Sample Number:	042416395-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0018 **Customer Sample:** MFL-AM03-080424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A8	None Detected									
I5	D6	None Detected									
I5	H6	None Detected									
I6	C6	None Detected									
I6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-080424-AB**	**Sample Description:**	**DL246243**
EMSL Sample Number:	042416395-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7242.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0019 **Customer Sample:** MFL-AM04-080424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B6	None Detected									
J1	F2	None Detected									
J1	I4	None Detected									
J3	E4	None Detected									
J3	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-080424-AB**		**Sample Description:**	**DL246614**
EMSL Sample Number:	042416395-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0020 **Customer Sample:** MFL-FB01-080424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A3	None Detected									
J5	C5	None Detected									
J5	E7	None Detected									
J5	G2	None Detected									
J5	I4	None Detected									
J8	A4	None Detected									
J8	C5	None Detected									
J8	E4	None Detected									
J8	G5	None Detected									
J8	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416395
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/07/2024 09:35 AM
Analysis Date:	08/13/2024
Report Date:	08/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042416395-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416395
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416395-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K6	C1	None Detected									
K6	D3	None Detected									
K6	E4	None Detected									
K6	H6	None Detected									
K6	H4	None Detected									
K7	A10	None Detected									
K7	B8	None Detected									
K7	D6	None Detected									
K7	F1	None Detected									
K7	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042416395

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042416395

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON NJ AUG 1 AM 10: 01

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Morgan Saldana
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-080124-AB	DL246222	7,182.339	08/01/24 1100
MFL-AM02-080124-AB	DL246368	7,196.526	08/01/24 1120
MFL-AM03-080124-AB	~~DL246368~~ DL246198 (EMS)	7,229.976	08/01/24 1301
MFL-AM04-080124-AB	DL246627	7,279.344	08/01/24 1326
MFL-FB01-080124-AB	DL246376	0	08/01/24 1200
MFL-AM01-080224-AB	DL246618	7,190.317	08/02/24 1102
MFL-AM02-080224-AB	DL246190	7,199.395	08/02/24 1118
MFL-AM03-080224-AB	DL246549	7,173.885	08/02/24 1304

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
	08/05/24 1100	FedEx	8/7/24 9:35A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042416395

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042416395

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200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-080224-AB	DL246225	7,143.328	08/02/24 1331
MFL-FB01-080224-AB	DL246215	0	08/02/24 1200
MFL-AM01-080324-AB	DL246246	7,143.981	08/03/24 1056
MFL-AM02-080324-AB	DL246209	7,241.480	08/03/24 1120
MFL-AM03-080324-AB	DL246504	7,148.282	08/03/24 1255
MFL-AM04-080324-AB	DL246645	7,156.920	08/03/24 1322
MFL-FB01-080324-AB	DL246191	0	08/03/24 1200
MFL-AM01-080424-AB	DL246370	7,178.112	08/04/24 400
MFL-AM02-080424-AB	DL246439	7,258.032	08/04/24 1124
MFL-AM03-080424-AB	DL246195	7,231.824	08/04/24 1302
MFL-AM04-080424-AB	DL246243	7,242.487	08/04/24 1324
MFL-FB01-080424-AB	DL246614	0	08/04/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG -7 AM 10:01

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/05/24 1100	Received by: FedEx	Date/Time 8/7/24 9:35
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/13/2024 and Shanna Vasser 08/15/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/01/2024 – 08/04/2024
Report No: 42416395

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-080524-AB** **Sample Description: DL246232**

EMSL Sample Number:	042416730-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7121.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0001 **Customer Sample:** MFL-AM01-080524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	G5	None Detected									
B1	E9	None Detected									
B1	C2	None Detected									
B2	F2	None Detected									
B2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-080524-AB** **Sample Description: DL246469**

EMSL Sample Number:	042416730-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0002 **Customer Sample:** MFL-AM02-080524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A8	None Detected									
B5	D7	None Detected									
B5	H4	None Detected									
B6	C6	None Detected									
B6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-080524-AB** **Sample Description: DL246237**

EMSL Sample Number:	042416730-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7262.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0003 **Customer Sample:** MFL-AM03-080524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G1	None Detected									
C1	E4	None Detected									
C1	B5	None Detected									
C2	B7	None Detected									
C2	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-080524-AB**	**Sample Description:**	**DL246213**
EMSL Sample Number:	042416730-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0004 **Customer Sample:** MFL-AM04-080524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	H4	None Detected									
C5	E4	None Detected									
C5	B9	None Detected									
C6	H6	None Detected									
C6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080524-AB** **Sample Description:** **DL246248**

EMSL Sample Number:	042416730-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0005 **Customer Sample:** MFL-FB01-080524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B10	None Detected									
D1	D8	None Detected									
D1	F10	None Detected									
D1	H6	None Detected									
D1	J5	None Detected									
D2	A7	None Detected									
D2	C10	None Detected									
D2	E4	None Detected									
D2	G9	None Detected									
D2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-080624-AB** **Sample Description: DL246187**

EMSL Sample Number:	042416730-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0006 **Customer Sample:** MFL-AM01-080624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J2	None Detected									
D5	G1	None Detected									
D5	C3	None Detected									
D6	D8	None Detected									
D6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-080624-AB** **Sample Description: DL246210**

EMSL Sample Number:	042416730-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0007 **Customer Sample:** MFL-AM02-080624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H7	None Detected									
E1	F9	None Detected									
E1	D4	None Detected									
E2	H4	None Detected									
E2	B6	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-080624-AB** **Sample Description: DL246241**

EMSL Sample Number:	042416730-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0008 **Customer Sample:** MFL-AM03-080624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A8	None Detected									
E5	E9	None Detected									
E5	H7	None Detected									
E6	B9	None Detected									
E6	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-080624-AB** **Sample Description: DL246223**

EMSL Sample Number:	042416730-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7140.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0009 **Customer Sample:** MFL-AM04-080624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	F8	None Detected									
F1	D6	None Detected									
F1	A10	None Detected									
F2	I5	None Detected									
F2	E2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080624-AB** **Sample Description:** **DL246242**

EMSL Sample Number:	042416730-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0010 **Customer Sample:** MFL-FB01-080624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J2	None Detected									
F5	H4	None Detected									
F5	F4	None Detected									
F5	D3	None Detected									
F5	B1	None Detected									
F6	J1	None Detected									
F6	H4	None Detected									
F6	F4	None Detected									
F6	D2	None Detected									
F6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-080724-AB** **Sample Description: DL246233**

EMSL Sample Number:	042416730-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0011 **Customer Sample:** MFL-AM01-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A10	None Detected									
G2	E8	None Detected									
G2	H10	None Detected									
G3	C10	None Detected									
G3	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-080724-AB** **Sample Description: DL246250**

EMSL Sample Number:	042416730-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0012 **Customer Sample:** MFL-AM02-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	B7	None Detected									
G6	D9	None Detected									
G6	J10	None Detected									
G7	F10	None Detected									
G7	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-080724-AB** **Sample Description: DL246234**

EMSL Sample Number:	042416730-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0013 **Customer Sample:** MFL-AM03-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H2	None Detected									
H1	E4	None Detected									
H1	C6	None Detected									
H2	D7	None Detected									
H2	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-080724-AB** **Sample Description: DL246240**

EMSL Sample Number:	042416730-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0014 **Customer Sample:** MFL-AM04-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A9	None Detected									
H5	D7	None Detected									
H5	H8	None Detected									
H6	C10	None Detected									
H6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080724-AB** **Sample Description: DL274893**

EMSL Sample Number:	042416730-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0015 **Customer Sample:** MFL-FB01-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	B9	None Detected									
I1	D7	None Detected									
I1	F10	None Detected									
I1	H8	None Detected									
I1	J7	None Detected									
I2	A6	None Detected									
I2	C5	None Detected									
I2	E2	None Detected									
I2	G5	None Detected									
I2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-080724-AB**		**Sample Description:**	**DL274870**
EMSL Sample Number:	042416730-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0016 **Customer Sample:** MFL-LB01-080724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A5	None Detected									
I5	C4	None Detected									
I5	E4	None Detected									
I5	G5	None Detected									
I5	I7	None Detected									
I6	A5	None Detected									
I6	C6	None Detected									
I6	E4	None Detected									
I6	G6	None Detected									
I6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416730
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/12/2024 10:00 AM
Analysis Date:	08/15/2024
Report Date:	08/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042416730-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416730
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416730-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J2	None Detected									
A1	H7	None Detected									
A1	F4	None Detected									
A1	D5	None Detected									
A1	B4	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E9	None Detected									
A2	G7	None Detected									
A2	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042416730

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042416730

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinAslab@EMSL.com

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2024 AUG 12 A 9:31

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Lanyon Sanderson
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-080524-AB	DL246232	7,121.850	08/05/24 1100
MFL-AM02-080524-AB	DL246469	7,168.502	08/05/24 1117
MFL-AM03-080524-AB	DL246237	7,262.208	08/05/24 1305
MFL-AM04-080524-AB	DL246213	7,199.945	08/05/24 1331
MFL-FB01-080524-AB	DL246248	0	08/05/24 1200
MFL-AM01-080624-AB	DL246187	7,165.842	08/06/24 1101
MFL-AM02-080624-AB	DL246210	7,197.478	08/06/24 1117
MFL-AM03-080624-AB	DL246241	7,171.027	08/06/24 1301

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15 16 8/12/24

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 08/08/24 1100 Received by: Date/Time 8.12.24 10

Relinquished by: Date/Time: Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042416730

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2024 AUG 12 A 9:31

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-080624-AB	DL246223	7,139.982	08/06/24 1321
MFL-FB01-080624-AB	DL246242	0	08/06/24 1200
MFL-AM01-080724-AB	DL246233	7,198.628	08/07/24 1102
MFL-AM02-080724-AB	DL246250	7,211.917	08/07/24 1120
MFL-AM03-080724-AB	DL246234	7,160.988	08/07/24 1257
MFL-AM04-080724-AB	DL246240	7,134.940	08/07/24 1318
MFL-FB01-080724-AB	DL274893	0	08/07/24 1200
MFL-LB01-080724-AB	DL274870	0	08/07/24 1201

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/08/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/20/2024 and Shanna Vasser 08/21/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/05/2024 – 08/07/2024
Report No: 42416730

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

August 29, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 08/12/24 10:23.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-080124-HM	4081227-01	Air	08/01/24 23:59	08/12/24 10:23
MFL-AM02-080124-HM	4081227-02	Air	08/01/24 23:59	08/12/24 10:23
MFL-AM03-080124-HM	4081227-03	Air	08/01/24 23:59	08/12/24 10:23
MFL-AM04-080124-HM	4081227-04	Air	08/01/24 23:59	08/12/24 10:23
MFL-FB01-080124-HM	4081227-05	Air	08/01/24 00:05	08/12/24 10:23
MFL-AM01-080224-HM	4081227-06	Air	08/02/24 23:59	08/12/24 10:23
MFL-AM02-080224-HM	4081227-07	Air	08/02/24 23:59	08/12/24 10:23
MFL-AM03-080224-HM	4081227-08	Air	08/02/24 23:59	08/12/24 10:23
MFL-AM04-080224-HM	4081227-09	Air	08/02/24 23:59	08/12/24 10:23
MFL-AM01-080324-HM	4081227-10	Air	08/03/24 23:59	08/12/24 10:23
MFL-AM02-080324-HM	4081227-11	Air	08/03/24 23:59	08/12/24 10:23
MFL-AM03-080324-HM	4081227-12	Air	08/03/24 23:59	08/12/24 10:23
MFL-AM04-080324-HM	4081227-13	Air	08/03/24 23:59	08/12/24 10:23
MFL-FB01-080324-HM	4081227-14	Air	08/03/24 00:05	08/12/24 10:23
MFL-AM01-080424-HM	4081227-15	Air	08/04/24 23:59	08/12/24 10:23
MFL-AM02-080424-HM	4081227-16	Air	08/04/24 23:59	08/12/24 10:23
MFL-AM03-080424-HM	4081227-17	Air	08/04/24 23:59	08/12/24 10:23
MFL-AM04-080424-HM	4081227-18	Air	08/04/24 23:59	08/12/24 10:23
MFL-AM01-080524-HM	4081227-19	Air	08/05/24 23:59	08/12/24 10:23
MFL-AM02-080524-HM	4081227-20	Air	08/05/24 23:59	08/12/24 10:23
MFL-AM03-080524-HM	4081227-21	Air	08/05/24 23:59	08/12/24 10:23

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-080524-HM	4081227-22	Air	08/05/24 23:59	08/12/24 10:23
MFL-FB01-080524-HM	4081227-23	Air	08/05/24 00:05	08/12/24 10:23
MFL-AM01-080624-HM	4081227-24	Air	08/06/24 23:59	08/12/24 10:23
MFL-AM02-080624-HM	4081227-25	Air	08/06/24 23:59	08/12/24 10:23
MFL-AM03-080624-HM	4081227-26	Air	08/06/24 23:59	08/12/24 10:23
MFL-AM04-080624-HM	4081227-27	Air	08/06/24 23:59	08/12/24 10:23
MFL-AM01-080724-HM	4081227-28	Air	08/07/24 23:59	08/12/24 10:23
MFL-AM02-080724-HM	4081227-29	Air	08/07/24 23:59	08/12/24 10:23
MFL-AM03-080724-HM	4081227-30	Air	08/07/24 23:59	08/12/24 10:23
MFL-AM04-080724-HM	4081227-31	Air	08/07/24 23:59	08/12/24 10:23
MFL-FB01-080724-HM	4081227-32	Air	08/07/24 00:05	08/12/24 10:23

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080124-HM
Matrix: Air
Lab ID: 4081227-01
Sample Volume: 1928.176 m³
Filter ID:
Sampled: 08/01/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 00:30

Comments: Q9547522 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0532**		**0.0326**
Arsenic	**7440-38-2**	**0.492**		**0.00791**
Barium	**7440-39-3**	**5.38**		**0.903**
Beryllium	**7440-41-7**	**0.0203**		**0.00270**
Cadmium	7440-43-9	0.0172	U	0.0625
Chromium	**7440-47-3**	**4.44**		**1.86**
Cobalt	**7440-48-4**	**0.859**		**0.0368**
Copper	**7440-50-8**	**143**		**2.22**
Lead	**7439-92-1**	**0.761**		**0.181**
Manganese	**7439-96-5**	**21.4**		**1.59**
Molybdenum	**7439-98-7**	**7.23**		**0.303**
Nickel	**7440-02-0**	**2.25**		**0.550**
Selenium	**7782-49-2**	**0.188**		**0.00756**
Thallium	**7440-28-0**	**0.00171**		**4.97E-4**
Vanadium	**7440-62-2**	**2.73**		**0.0446**
Zinc	7440-66-6	14.1	U	64.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080124-HM
Matrix: Air
Lab ID: 4081227-02
Sample Volume: 2143.334 m³
Filter ID:
Sampled: 08/01/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 00:47

Comments: Q9547521- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**		**0.0293**
Arsenic	**7440-38-2**	**0.430**		**0.00711**
Barium	**7440-39-3**	**5.87**		**0.812**
Beryllium	**7440-41-7**	**0.0206**		**0.00243**
Cadmium	7440-43-9	0.0206	U	0.0562
Chromium	**7440-47-3**	**3.50**		**1.68**
Cobalt	**7440-48-4**	**0.765**		**0.0331**
Copper	**7440-50-8**	**32.2**		**2.00**
Lead	**7439-92-1**	**0.898**		**0.162**
Manganese	**7439-96-5**	**25.4**		**1.43**
Molybdenum	**7439-98-7**	**1.47**		**0.273**
Nickel	**7440-02-0**	**1.92**		**0.495**
Selenium	**7782-49-2**	**0.205**		**0.00680**
Thallium	**7440-28-0**	**0.00183**		**4.47E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0402**
Zinc	7440-66-6	12.1	U	58.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080124-HM
Matrix: Air
Lab ID: 4081227-03
Sample Volume: 1964.715 m³
Filter ID:
Sampled: 08/01/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 01:02

Comments: Q9547520 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0628**		**0.0320**
Arsenic	**7440-38-2**	**0.256**		**0.00776**
Barium	**7440-39-3**	**3.51**		**0.886**
Beryllium	**7440-41-7**	**0.0283**		**0.00265**
Cadmium	7440-43-9	0.0138	U	0.0614
Chromium	**7440-47-3**	**2.94**		**1.83**
Cobalt	**7440-48-4**	**0.519**		**0.0361**
Copper	**7440-50-8**	**56.5**		**2.18**
Lead	**7439-92-1**	**0.759**		**0.177**
Manganese	**7439-96-5**	**12.4**		**1.57**
Molybdenum	**7439-98-7**	**3.09**		**0.297**
Nickel	**7440-02-0**	**1.70**		**0.540**
Selenium	**7782-49-2**	**0.164**		**0.00742**
Thallium	**7440-28-0**	**0.00128**		**4.88E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0438**
Zinc	7440-66-6	18.2	U	63.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080124-HM
Matrix: Air
Lab ID: 4081227-04
Sample Volume: 1873.647 m³
Filter ID:
Sampled: 08/01/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 01:17

Comments: Q9547518 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0872**		**0.0335**
Arsenic	**7440-38-2**	**0.354**		**0.00814**
Barium	**7440-39-3**	**3.85**		**0.929**
Beryllium	**7440-41-7**	**0.0147**		**0.00278**
Cadmium	7440-43-9	0.0176	U	0.0643
Chromium	**7440-47-3**	**3.40**		**1.92**
Cobalt	**7440-48-4**	**0.549**		**0.0379**
Copper	**7440-50-8**	**38.4**		**2.28**
Lead	**7439-92-1**	**0.798**		**0.186**
Manganese	**7439-96-5**	**16.8**		**1.64**
Molybdenum	**7439-98-7**	**2.00**		**0.312**
Nickel	**7440-02-0**	**1.52**		**0.566**
Selenium	**7782-49-2**	**0.174**		**0.00778**
Thallium	**7440-28-0**	**0.00129**		**5.11E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0459**
Zinc	7440-66-6	12.4	U	66.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-080124-HM
Matrix: Air
Lab ID: 4081227-05
Sample Volume: 1928.176 m³
Filter ID:
Sampled: 08/01/24 00:05
Received: 08/12/24 10:23
Analysis Date: 08/14/24 01:32

Comments: Q9547511 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0123	U	0.0326
Arsenic	7440-38-2	0.00476	U	0.00791
Barium	7440-39-3	0.420	U	0.903
Beryllium	7440-41-7	7.91E-4	U	0.00270
Cadmium	7440-43-9	0.00190	U	0.0625
Chromium	7440-47-3	1.27	U	1.86
Cobalt	7440-48-4	0.0200	U	0.0368
Copper	7440-50-8	0.450	U	2.22
Lead	7439-92-1	0.0341	U	0.181
Manganese	7439-96-5	0.226	U	1.59
Molybdenum	7439-98-7	0.185	U	0.303
Nickel	7440-02-0	0.336	U	0.550
Selenium	7782-49-2	0.00476	U	0.00756
Thallium	7440-28-0	8.72E-5	U	4.97E-4
Vanadium	7440-62-2	0.0279	U	0.0446
Zinc	7440-66-6	2.59	U	64.8

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080224-HM
Matrix: Air
Lab ID: 4081227-06
Sample Volume: 1949.947 m³
Filter ID:
Sampled: 08/02/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 01:46

Comments: Q9547517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0513**		**0.0322**
Arsenic	**7440-38-2**	**0.369**		**0.00782**
Barium	**7440-39-3**	**4.26**		**0.893**
Beryllium	**7440-41-7**	**0.0172**		**0.00267**
Cadmium	7440-43-9	0.0162	U	0.0618
Chromium	**7440-47-3**	**4.01**		**1.84**
Cobalt	**7440-48-4**	**0.757**		**0.0364**
Copper	**7440-50-8**	**124**		**2.19**
Lead	**7439-92-1**	**0.390**		**0.179**
Manganese	**7439-96-5**	**18.4**		**1.58**
Molybdenum	**7439-98-7**	**6.37**		**0.300**
Nickel	**7440-02-0**	**2.13**		**0.544**
Selenium	**7782-49-2**	**0.196**		**0.00748**
Thallium	**7440-28-0**	**0.00147**		**4.91E-4**
Vanadium	**7440-62-2**	**2.28**		**0.0441**
Zinc	7440-66-6	7.19	U	64.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080224-HM
Matrix: Air
Lab ID: 4081227-07
Sample Volume: 2142.437 m³
Filter ID:
Sampled: 08/02/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 02:19

Comments: Q9547516 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0815**		**0.0293**
Arsenic	**7440-38-2**	**0.323**		**0.00712**
Barium	**7440-39-3**	**3.76**		**0.813**
Beryllium	**7440-41-7**	**0.0126**		**0.00243**
Cadmium	7440-43-9	0.0141	U	0.0563
Chromium	**7440-47-3**	**2.21**		**1.68**
Cobalt	**7440-48-4**	**0.339**		**0.0331**
Copper	**7440-50-8**	**40.5**		**2.00**
Lead	**7439-92-1**	**1.06**		**0.163**
Manganese	**7439-96-5**	**11.4**		**1.44**
Molybdenum	**7439-98-7**	**1.95**		**0.273**
Nickel	**7440-02-0**	**1.05**		**0.495**
Selenium	**7782-49-2**	**0.197**		**0.00680**
Thallium	**7440-28-0**	**0.00131**		**4.47E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0402**
Zinc	7440-66-6	12.3	U	58.3

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080224-HM
Matrix: Air
Lab ID: 4081227-08
Sample Volume: 2043.359 m³
Filter ID:
Sampled: 08/02/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 02:33

Comments: Q9547514 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0523**		**0.0307**
Arsenic	**7440-38-2**	**0.179**		**0.00746**
Barium	**7440-39-3**	**2.59**		**0.852**
Beryllium	**7440-41-7**	**0.0205**		**0.00255**
Cadmium	7440-43-9	0.0181	U	0.0590
Chromium	**7440-47-3**	**2.48**		**1.76**
Cobalt	**7440-48-4**	**0.443**		**0.0347**
Copper	**7440-50-8**	**42.9**		**2.09**
Lead	**7439-92-1**	**0.381**		**0.170**
Manganese	**7439-96-5**	**11.2**		**1.50**
Molybdenum	**7439-98-7**	**2.38**		**0.286**
Nickel	**7440-02-0**	**1.61**		**0.519**
Selenium	**7782-49-2**	**0.159**		**0.00713**
Thallium	**7440-28-0**	**0.00108**		**4.69E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0421**
Zinc	7440-66-6	12.8	U	61.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080224-HM
Matrix: Air
Lab ID: 4081227-09
Sample Volume: 1954.634 m³
Filter ID:
Sampled: 08/02/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 02:47

Comments: Q9547512 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0785**		**0.0321**
Arsenic	**7440-38-2**	**0.252**		**0.00780**
Barium	**7440-39-3**	**2.85**		**0.891**
Beryllium	**7440-41-7**	**0.0105**		**0.00266**
Cadmium	7440-43-9	0.0213	U	0.0617
Chromium	**7440-47-3**	**6.23**		**1.84**
Cobalt	**7440-48-4**	**0.444**		**0.0363**
Copper	**7440-50-8**	**36.8**		**2.19**
Lead	**7439-92-1**	**0.550**		**0.178**
Manganese	**7439-96-5**	**12.3**		**1.57**
Molybdenum	**7439-98-7**	**2.04**		**0.299**
Nickel	**7440-02-0**	**3.68**		**0.543**
Selenium	**7782-49-2**	**0.168**		**0.00746**
Thallium	**7440-28-0**	**0.00115**		**4.90E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0440**
Zinc	7440-66-6	10.4	U	63.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080324-HM
Matrix: Air
Lab ID: 4081227-10
Sample Volume: 1897.666 m³
Filter ID:
Sampled: 08/03/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 03:56

Comments: Q9547510 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0500**		**0.0331**
Arsenic	**7440-38-2**	**0.399**		**0.00803**
Barium	**7440-39-3**	**4.71**		**0.917**
Beryllium	**7440-41-7**	**0.0192**		**0.00274**
Cadmium	7440-43-9	0.0117	U	0.0635
Chromium	**7440-47-3**	**4.39**		**1.89**
Cobalt	**7440-48-4**	**0.933**		**0.0374**
Copper	**7440-50-8**	**131**		**2.25**
Lead	**7439-92-1**	**0.351**		**0.183**
Manganese	**7439-96-5**	**20.8**		**1.62**
Molybdenum	**7439-98-7**	**6.76**		**0.308**
Nickel	**7440-02-0**	**2.79**		**0.559**
Selenium	**7782-49-2**	**0.185**		**0.00768**
Thallium	**7440-28-0**	**0.00128**		**5.05E-4**
Vanadium	**7440-62-2**	**2.68**		**0.0454**
Zinc	7440-66-6	7.12	U	65.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080324-HM
Matrix: Air
Lab ID: 4081227-11
Sample Volume: 2162.458 m³
Filter ID:
Sampled: 08/03/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/13/24 17:56

Comments: Q9547507 - Received in good condition MS/MSD

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**		**0.0290**
Arsenic	**7440-38-2**	**0.260**		**0.00705**
Barium	**7440-39-3**	**3.34**		**0.805**
Beryllium	**7440-41-7**	**0.0101**		**0.00241**
Cadmium	7440-43-9	0.0189	U	0.0558
Chromium	**7440-47-3**	**1.99**		**1.66**
Cobalt	**7440-48-4**	**0.290**		**0.0328**
Copper	**7440-50-8**	**56.8**		**1.98**
Lead	**7439-92-1**	**0.842**		**0.161**
Manganese	**7439-96-5**	**9.20**		**1.42**
Molybdenum	**7439-98-7**	**1.89**		**0.270**
Nickel	**7440-02-0**	**1.03**		**0.491**
Selenium	**7782-49-2**	**0.169**		**0.00674**
Thallium	**7440-28-0**	**9.56E-4**		**4.43E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0398**
Zinc	7440-66-6	12.7	U	57.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080324-HM
Matrix: Air
Lab ID: 4081227-12
Sample Volume: 1773.693 m³
Filter ID:
Sampled: 08/03/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 04:13

Comments: Q9547506 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0575**		**0.0354**
Arsenic	**7440-38-2**	**0.162**		**0.00860**
Barium	**7440-39-3**	**2.55**		**0.982**
Beryllium	**7440-41-7**	**0.0130**		**0.00294**
Cadmium	**7440-43-9**	**0.126**		**0.0680**
Chromium	**7440-47-3**	**27.0**		**2.03**
Cobalt	**7440-48-4**	**0.628**		**0.0400**
Copper	**7440-50-8**	**82.1**		**2.41**
Lead	**7439-92-1**	**1.09**		**0.196**
Manganese	**7439-96-5**	**11.1**		**1.73**
Molybdenum	**7439-98-7**	**3.78**		**0.329**
Nickel	**7440-02-0**	**12.4**		**0.598**
Selenium	**7782-49-2**	**0.172**		**0.00822**
Thallium	**7440-28-0**	**0.00107**		**5.40E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0485**
Zinc	7440-66-6	26.7	U	70.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080324-HM
Matrix: Air
Lab ID: 4081227-13
Sample Volume: 1938.284 m³
Filter ID:
Sampled: 08/03/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 04:28

Comments: Q9547505 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0899**		**0.0324**
Arsenic	**7440-38-2**	**0.246**		**0.00787**
Barium	**7440-39-3**	**2.39**		**0.898**
Beryllium	**7440-41-7**	**0.00881**		**0.00269**
Cadmium	7440-43-9	0.0170	U	0.0622
Chromium	**7440-47-3**	**2.84**		**1.86**
Cobalt	**7440-48-4**	**0.295**		**0.0366**
Copper	**7440-50-8**	**35.7**		**2.21**
Lead	**7439-92-1**	**0.495**		**0.180**
Manganese	**7439-96-5**	**9.20**		**1.59**
Molybdenum	**7439-98-7**	**1.78**		**0.301**
Nickel	**7440-02-0**	**1.41**		**0.547**
Selenium	**7782-49-2**	**0.152**		**0.00752**
Thallium	**7440-28-0**	**7.57E-4**		**4.94E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0444**
Zinc	7440-66-6	8.81	U	64.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-080324-HM
Matrix: Air
Lab ID: 4081227-14
Sample Volume: 1897.666 m³
Filter ID:
Sampled: 08/03/24 00:05
Received: 08/12/24 10:23
Analysis Date: 08/14/24 04:42

Comments: Q9547502 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0120	U	0.0331
Arsenic	7440-38-2	0.00516	U	0.00803
Barium	7440-39-3	0.416	U	0.917
Beryllium	7440-41-7	9.45E-4	U	0.00274
Cadmium	7440-43-9	0.00230	U	0.0635
Chromium	7440-47-3	1.14	U	1.89
Cobalt	7440-48-4	0.0222	U	0.0374
Copper	7440-50-8	0.733	U	2.25
Lead	7439-92-1	0.0298	U	0.183
Manganese	7439-96-5	0.258	U	1.62
Molybdenum	7439-98-7	0.205	U	0.308
Nickel	7440-02-0	0.285	U	0.559
Selenium	7782-49-2	0.00227	U	0.00768
Thallium	7440-28-0	9.93E-5	U	5.05E-4
Vanadium	7440-62-2	0.0345	U	0.0454
Zinc	7440-66-6	3.11	U	65.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080424-HM
Matrix: Air
Lab ID: 4081227-15
Sample Volume: 1924.128 m³
Filter ID:
Sampled: 08/04/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 04:56

Comments: Q9547504 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0513**		**0.0326**
Arsenic	**7440-38-2**	**0.398**		**0.00792**
Barium	**7440-39-3**	**3.11**		**0.905**
Beryllium	**7440-41-7**	**0.0107**		**0.00271**
Cadmium	7440-43-9	0.0241	U	0.0627
Chromium	**7440-47-3**	**3.13**		**1.87**
Cobalt	**7440-48-4**	**0.488**		**0.0369**
Copper	**7440-50-8**	**216**		**2.22**
Lead	**7439-92-1**	**0.302**		**0.181**
Manganese	**7439-96-5**	**11.7**		**1.60**
Molybdenum	**7439-98-7**	**11.3**		**0.304**
Nickel	**7440-02-0**	**1.44**		**0.551**
Selenium	**7782-49-2**	**0.140**		**0.00758**
Thallium	**7440-28-0**	**7.95E-4**		**4.98E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0447**
Zinc	7440-66-6	7.79	U	64.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080424-HM
Matrix: Air
Lab ID: 4081227-16
Sample Volume: 2032.294 m³
Filter ID:
Sampled: 08/04/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 05:12

Comments: Q9547503 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.195**		**0.0309**
Arsenic	**7440-38-2**	**0.628**		**0.00750**
Barium	**7440-39-3**	**22.2**		**0.857**
Beryllium	**7440-41-7**	**0.0315**		**0.00256**
Cadmium	**7440-43-9**	**0.0632**		**0.0593**
Chromium	**7440-47-3**	**3.96**		**1.77**
Cobalt	**7440-48-4**	**0.789**		**0.0349**
Copper	**7440-50-8**	**70.6**		**2.11**
Lead	**7439-92-1**	**2.16**		**0.171**
Manganese	**7439-96-5**	**26.3**		**1.51**
Molybdenum	**7439-98-7**	**1.97**		**0.287**
Nickel	**7440-02-0**	**2.34**		**0.522**
Selenium	**7782-49-2**	**0.228**		**0.00717**
Thallium	**7440-28-0**	**0.00148**		**4.72E-4**
Vanadium	**7440-62-2**	**2.66**		**0.0424**
Zinc	7440-66-6	24.1	U	61.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080424-HM
Matrix: Air
Lab ID: 4081227-17
Sample Volume: 1883.434 m³
Filter ID:
Sampled: 08/04/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 05:29

Comments: Q9547501 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0432**		**0.0333**
Arsenic	**7440-38-2**	**0.105**		**0.00809**
Barium	**7440-39-3**	**1.80**		**0.924**
Beryllium	**7440-41-7**	**0.00786**		**0.00276**
Cadmium	7440-43-9	0.0216	U	0.0640
Chromium	7440-47-3	1.80	U	1.91
Cobalt	**7440-48-4**	**0.212**		**0.0377**
Copper	**7440-50-8**	**41.8**		**2.27**
Lead	**7439-92-1**	**0.430**		**0.185**
Manganese	**7439-96-5**	**4.15**		**1.63**
Molybdenum	**7439-98-7**	**1.94**		**0.310**
Nickel	**7440-02-0**	**0.815**		**0.563**
Selenium	**7782-49-2**	**0.102**		**0.00774**
Thallium	7440-28-0	5.08E-4	U	5.09E-4
Vanadium	**7440-62-2**	**0.528**		**0.0457**
Zinc	7440-66-6	9.90	U	66.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080424-HM
Matrix: Air
Lab ID: 4081227-18
Sample Volume: 1749.088 m³
Filter ID:
Sampled: 08/04/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 05:43

Comments: Q9547500 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**		**0.0359**
Arsenic	**7440-38-2**	**0.183**		**0.00872**
Barium	**7440-39-3**	**2.07**		**0.995**
Beryllium	**7440-41-7**	**0.00655**		**0.00298**
Cadmium	7440-43-9	0.0363	U	0.0689
Chromium	**7440-47-3**	**3.10**		**2.06**
Cobalt	**7440-48-4**	**0.241**		**0.0406**
Copper	**7440-50-8**	**60.3**		**2.45**
Lead	**7439-92-1**	**0.679**		**0.199**
Manganese	**7439-96-5**	**6.64**		**1.76**
Molybdenum	**7439-98-7**	**2.22**		**0.334**
Nickel	**7440-02-0**	**1.49**		**0.606**
Selenium	**7782-49-2**	**0.125**		**0.00833**
Thallium	**7440-28-0**	**6.73E-4**		**5.48E-4**
Vanadium	**7440-62-2**	**0.690**		**0.0492**
Zinc	7440-66-6	13.8	U	71.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080524-HM
Matrix: Air
Lab ID: 4081227-19
Sample Volume: 1802.011 m³
Filter ID:
Sampled: 08/05/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 05:58

Comments: Q9547499 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0500**		**0.0349**
Arsenic	**7440-38-2**	**0.394**		**0.00846**
Barium	**7440-39-3**	**4.09**		**0.966**
Beryllium	**7440-41-7**	**0.0129**		**0.00289**
Cadmium	7440-43-9	0.0133	U	0.0669
Chromium	**7440-47-3**	**3.48**		**2.00**
Cobalt	**7440-48-4**	**0.550**		**0.0394**
Copper	**7440-50-8**	**195**		**2.37**
Lead	**7439-92-1**	**0.296**		**0.193**
Manganese	**7439-96-5**	**13.1**		**1.71**
Molybdenum	**7439-98-7**	**9.79**		**0.324**
Nickel	**7440-02-0**	**1.64**		**0.589**
Selenium	**7782-49-2**	**0.175**		**0.00809**
Thallium	**7440-28-0**	**8.47E-4**		**5.32E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0478**
Zinc	7440-66-6	8.19	U	69.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080524-HM
Matrix: Air
Lab ID: 4081227-20
Sample Volume: 2039.465 m³
Filter ID:
Sampled: 08/05/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 06:13

Comments: Q9547498 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.265**		**0.0308**
Arsenic	**7440-38-2**	**0.341**		**0.00747**
Barium	**7440-39-3**	**3.78**		**0.854**
Beryllium	**7440-41-7**	**0.0107**		**0.00255**
Cadmium	7440-43-9	0.0153	U	0.0591
Chromium	**7440-47-3**	**2.26**		**1.76**
Cobalt	**7440-48-4**	**0.322**		**0.0348**
Copper	**7440-50-8**	**45.6**		**2.10**
Lead	**7439-92-1**	**0.909**		**0.171**
Manganese	**7439-96-5**	**9.45**		**1.51**
Molybdenum	**7439-98-7**	**1.91**		**0.286**
Nickel	**7440-02-0**	**1.14**		**0.520**
Selenium	**7782-49-2**	**0.186**		**0.00715**
Thallium	**7440-28-0**	**7.91E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0422**
Zinc	7440-66-6	11.5	U	61.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080524-HM
Matrix: Air
Lab ID: 4081227-21
Sample Volume: 1922.647 m³
Filter ID:
Sampled: 08/05/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 07:22

Comments: Q9547496 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0357**		**0.0327**
Arsenic	**7440-38-2**	**0.130**		**0.00793**
Barium	**7440-39-3**	**3.99**		**0.905**
Beryllium	**7440-41-7**	**0.0118**		**0.00271**
Cadmium	7440-43-9	0.0118	U	0.0627
Chromium	**7440-47-3**	**1.95**		**1.87**
Cobalt	**7440-48-4**	**0.239**		**0.0369**
Copper	**7440-50-8**	**38.4**		**2.23**
Lead	**7439-92-1**	**0.307**		**0.181**
Manganese	**7439-96-5**	**6.18**		**1.60**
Molybdenum	**7439-98-7**	**1.95**		**0.304**
Nickel	**7440-02-0**	**0.863**		**0.552**
Selenium	**7782-49-2**	**0.130**		**0.00758**
Thallium	**7440-28-0**	**7.16E-4**		**4.98E-4**
Vanadium	**7440-62-2**	**0.764**		**0.0448**
Zinc	7440-66-6	8.35	U	65.0

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080524-HM
Matrix: Air
Lab ID: 4081227-22
Sample Volume: 1725.512 m³
Filter ID:
Sampled: 08/05/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 07:50

Comments: Q9547494 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0823**		**0.0364**
Arsenic	**7440-38-2**	**0.199**		**0.00884**
Barium	**7440-39-3**	**2.43**		**1.01**
Beryllium	**7440-41-7**	**0.00935**		**0.00302**
Cadmium	7440-43-9	0.0185	U	0.0699
Chromium	**7440-47-3**	**2.41**		**2.08**
Cobalt	**7440-48-4**	**0.282**		**0.0411**
Copper	**7440-50-8**	**57.1**		**2.48**
Lead	**7439-92-1**	**0.461**		**0.202**
Manganese	**7439-96-5**	**8.52**		**1.78**
Molybdenum	**7439-98-7**	**2.02**		**0.339**
Nickel	**7440-02-0**	**1.30**		**0.615**
Selenium	**7782-49-2**	**0.146**		**0.00845**
Thallium	**7440-28-0**	**7.79E-4**		**5.55E-4**
Vanadium	**7440-62-2**	**0.897**		**0.0499**
Zinc	7440-66-6	9.35	U	72.4

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-080524-HM
Matrix: Air
Lab ID: 4081227-23
Sample Volume: 1802.011 m³
Filter ID:
Sampled: 08/05/24 00:05
Received: 08/12/24 10:23
Analysis Date: 08/14/24 08:05

Comments: Q9547489 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0118	U	0.0349
Arsenic	7440-38-2	0.00785	U	0.00846
Barium	7440-39-3	0.508	U	0.966
Beryllium	7440-41-7	0.00141	U	0.00289
Cadmium	7440-43-9	0.00262	U	0.0669
Chromium	7440-47-3	1.25	U	2.00
Cobalt	7440-48-4	0.0312	U	0.0394
Copper	7440-50-8	0.961	U	2.37
Lead	7439-92-1	0.0574	U	0.193
Manganese	7439-96-5	0.388	U	1.71
Molybdenum	7439-98-7	0.216	U	0.324
Nickel	7440-02-0	0.399	U	0.589
Selenium	7782-49-2	0.00158	U	0.00809
Thallium	7440-28-0	1.21E-4	U	5.32E-4
Vanadium	**7440-62-2**	**0.0535**		**0.0478**
Zinc	7440-66-6	3.41	U	69.3

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080624-HM
Matrix: Air
Lab ID: 4081227-24
Sample Volume: 1879.138 m³
Filter ID:
Sampled: 08/06/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 08:19

Comments: Q9547492 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0458**		**0.0334**
Arsenic	**7440-38-2**	**0.477**		**0.00811**
Barium	**7440-39-3**	**5.42**		**0.926**
Beryllium	**7440-41-7**	**0.0217**		**0.00277**
Cadmium	7440-43-9	0.0142	U	0.0642
Chromium	**7440-47-3**	**4.45**		**1.91**
Cobalt	**7440-48-4**	**0.921**		**0.0377**
Copper	**7440-50-8**	**247**		**2.28**
Lead	**7439-92-1**	**0.318**		**0.185**
Manganese	**7439-96-5**	**22.4**		**1.64**
Molybdenum	**7439-98-7**	**12.0**		**0.311**
Nickel	**7440-02-0**	**2.21**		**0.565**
Selenium	**7782-49-2**	**0.195**		**0.00776**
Thallium	**7440-28-0**	**0.00125**		**5.10E-4**
Vanadium	**7440-62-2**	**2.83**		**0.0458**
Zinc	7440-66-6	7.80	U	66.5

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080624-HM
Matrix: Air
Lab ID: 4081227-25
Sample Volume: 2030.593 m³
Filter ID:
Sampled: 08/06/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 08:34

Comments: Q9547491 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**		**0.0309**
Arsenic	**7440-38-2**	**0.448**		**0.00751**
Barium	**7440-39-3**	**5.31**		**0.857**
Beryllium	**7440-41-7**	**0.0144**		**0.00256**
Cadmium	7440-43-9	0.0124	U	0.0594
Chromium	**7440-47-3**	**2.54**		**1.77**
Cobalt	**7440-48-4**	**0.433**		**0.0349**
Copper	**7440-50-8**	**44.6**		**2.11**
Lead	**7439-92-1**	**0.825**		**0.171**
Manganese	**7439-96-5**	**12.5**		**1.51**
Molybdenum	**7439-98-7**	**1.82**		**0.288**
Nickel	**7440-02-0**	**1.25**		**0.522**
Selenium	**7782-49-2**	**0.190**		**0.00718**
Thallium	**7440-28-0**	**9.99E-4**		**4.72E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0424**
Zinc	7440-66-6	12.4	U	61.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080624-HM
Matrix: Air
Lab ID: 4081227-26
Sample Volume: 1916.214 m³
Filter ID:
Sampled: 08/06/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 08:50

Comments: Q9547490 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0471**		**0.0328**
Arsenic	**7440-38-2**	**0.222**		**0.00796**
Barium	**7440-39-3**	**3.27**		**0.909**
Beryllium	**7440-41-7**	**0.0332**		**0.00272**
Cadmium	7440-43-9	0.0184	U	0.0629
Chromium	**7440-47-3**	**3.89**		**1.88**
Cobalt	**7440-48-4**	**0.667**		**0.0370**
Copper	**7440-50-8**	**51.1**		**2.23**
Lead	**7439-92-1**	**0.456**		**0.182**
Manganese	**7439-96-5**	**16.5**		**1.60**
Molybdenum	**7439-98-7**	**2.35**		**0.305**
Nickel	**7440-02-0**	**2.28**		**0.554**
Selenium	**7782-49-2**	**0.185**		**0.00761**
Thallium	**7440-28-0**	**0.00114**		**5.00E-4**
Vanadium	**7440-62-2**	**1.59**		**0.0449**
Zinc	7440-66-6	16.1	U	65.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080624-HM
Matrix: Air
Lab ID: 4081227-27
Sample Volume: 1765.214 m³
Filter ID:
Sampled: 08/06/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 09:05

Comments: Q9547488 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0940**		**0.0356**
Arsenic	**7440-38-2**	**0.351**		**0.00864**
Barium	**7440-39-3**	**3.38**		**0.986**
Beryllium	**7440-41-7**	**0.0105**		**0.00295**
Cadmium	7440-43-9	0.0134	U	0.0683
Chromium	**7440-47-3**	**3.17**		**2.04**
Cobalt	**7440-48-4**	**0.400**		**0.0402**
Copper	**7440-50-8**	**34.9**		**2.42**
Lead	**7439-92-1**	**0.508**		**0.197**
Manganese	**7439-96-5**	**10.9**		**1.74**
Molybdenum	**7439-98-7**	**1.78**		**0.331**
Nickel	**7440-02-0**	**2.36**		**0.601**
Selenium	**7782-49-2**	**0.176**		**0.00826**
Thallium	**7440-28-0**	**8.78E-4**		**5.43E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0488**
Zinc	7440-66-6	13.4	U	70.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080724-HM
Matrix: Air
Lab ID: 4081227-28
Sample Volume: 1923.325 m³
Filter ID:
Sampled: 08/07/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 09:19

Comments: Q9547487 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0374**		**0.0327**
Arsenic	**7440-38-2**	**0.647**		**0.00793**
Barium	**7440-39-3**	**7.36**		**0.905**
Beryllium	**7440-41-7**	**0.0258**		**0.00271**
Cadmium	7440-43-9	0.0154	U	0.0627
Chromium	**7440-47-3**	**5.82**		**1.87**
Cobalt	**7440-48-4**	**1.28**		**0.0369**
Copper	**7440-50-8**	**295**		**2.22**
Lead	**7439-92-1**	**0.355**		**0.181**
Manganese	**7439-96-5**	**28.6**		**1.60**
Molybdenum	**7439-98-7**	**12.8**		**0.304**
Nickel	**7440-02-0**	**3.01**		**0.552**
Selenium	**7782-49-2**	**0.246**		**0.00758**
Thallium	**7440-28-0**	**0.00149**		**4.98E-4**
Vanadium	**7440-62-2**	**3.66**		**0.0447**
Zinc	7440-66-6	9.62	U	65.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080724-HM
Matrix: Air
Lab ID: 4081227-29
Sample Volume: 2054.896 m³
Filter ID:
Sampled: 08/07/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 09:35

Comments: Q9547486 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.187**		**0.0306**
Arsenic	**7440-38-2**	**0.319**		**0.00742**
Barium	**7440-39-3**	**6.29**		**0.847**
Beryllium	**7440-41-7**	**0.0174**		**0.00253**
Cadmium	7440-43-9	0.0137	U	0.0587
Chromium	**7440-47-3**	**2.83**		**1.75**
Cobalt	**7440-48-4**	**0.552**		**0.0345**
Copper	**7440-50-8**	**43.5**		**2.08**
Lead	**7439-92-1**	**0.892**		**0.169**
Manganese	**7439-96-5**	**16.0**		**1.50**
Molybdenum	**7439-98-7**	**2.11**		**0.284**
Nickel	**7440-02-0**	**1.43**		**0.516**
Selenium	**7782-49-2**	**0.222**		**0.00709**
Thallium	**7440-28-0**	**0.00116**		**4.66E-4**
Vanadium	**7440-62-2**	**1.70**		**0.0419**
Zinc	7440-66-6	14.2	U	60.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080724-HM
Matrix: Air
Lab ID: 4081227-30
Sample Volume: 1979.539 m³
Filter ID:
Sampled: 08/07/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/14/24 10:46

Comments: Q9547485 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0456**		**0.0317**
Arsenic	**7440-38-2**	**0.189**		**0.00770**
Barium	**7440-39-3**	**2.90**		**0.879**
Beryllium	**7440-41-7**	**0.0263**		**0.00263**
Cadmium	7440-43-9	0.00980	U	0.0609
Chromium	**7440-47-3**	**2.80**		**1.82**
Cobalt	**7440-48-4**	**0.484**		**0.0358**
Copper	**7440-50-8**	**40.6**		**2.16**
Lead	**7439-92-1**	**0.317**		**0.176**
Manganese	**7439-96-5**	**12.3**		**1.55**
Molybdenum	**7439-98-7**	**2.23**		**0.295**
Nickel	**7440-02-0**	**1.28**		**0.536**
Selenium	**7782-49-2**	**0.178**		**0.00736**
Thallium	**7440-28-0**	**0.00107**		**4.84E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0435**
Zinc	7440-66-6	9.80	U	63.1

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080724-HM
Matrix: Air
Lab ID: 4081227-31
Sample Volume: 1821.984 m³
Filter ID:
Sampled: 08/07/24 23:59
Received: 08/12/24 10:23
Analysis Date: 08/13/24 21:47

Comments: Q9547483 - Received in good condition MS/MSD

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0922**		**0.0345**
Arsenic	**7440-38-2**	**0.660**		**0.00837**
Barium	**7440-39-3**	**4.09**		**0.955**
Beryllium	**7440-41-7**	**0.0215**		**0.00286**
Cadmium	7440-43-9	0.0160	U	0.0662
Chromium	**7440-47-3**	**3.38**		**1.97**
Cobalt	**7440-48-4**	**0.631**		**0.0389**
Copper	**7440-50-8**	**31.9**		**2.35**
Lead	**7439-92-1**	**0.819**		**0.191**
Manganese	**7439-96-5**	**18.9**		**1.69**
Molybdenum	**7439-98-7**	**1.83**		**0.321**
Nickel	**7440-02-0**	**1.54**		**0.582**
Selenium	**7782-49-2**	**0.216**		**0.00800**
Thallium	**7440-28-0**	**0.00128**		**5.26E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0472**
Zinc	7440-66-6	11.7	U	68.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-080724-HM
Matrix: Air
Lab ID: 4081227-32
Sample Volume: 1923.325 m³
Filter ID:
Sampled: 08/07/24 00:05
Received: 08/12/24 10:23
Analysis Date: 08/14/24 11:03

Comments: Q9547474 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0109	U	0.0327
Arsenic	7440-38-2	0.00370	U	0.00793
Barium	7440-39-3	0.393	U	0.905
Beryllium	7440-41-7	6.94E-4	U	0.00271
Cadmium	7440-43-9	0.00180	U	0.0627
Chromium	7440-47-3	1.11	U	1.87
Cobalt	7440-48-4	0.0237	U	0.0369
Copper	7440-50-8	0.353	U	2.22
Lead	7439-92-1	0.0286	U	0.181
Manganese	7439-96-5	0.204	U	1.60
Molybdenum	7439-98-7	0.175	U	0.304
Nickel	7440-02-0	0.240	U	0.552
Selenium	7782-49-2	0.00298	U	0.00758
Thallium	7440-28-0	1.14E-4	U	4.98E-4
Vanadium	7440-62-2	0.0243	U	0.0447
Zinc	7440-66-6	2.40	U	65.0

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REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Blank (2408042-CCB1)				Prepared & Analyzed: 08/13/24						
Antimony	-0.969		ng/l							U
Arsenic	-5.32		ng/l							U
Barium	-3.95		ng/l							U
Beryllium	0.0530		ng/l							
Cadmium	-0.196		ng/l							U
Chromium	2.48		ng/l							
Cobalt	0.242		ng/l							
Copper	71.1		ng/l							
Lead	4.00		ng/l							
Manganese	5.79		ng/l							
Molybdenum	25.3		ng/l							
Nickel	0.0294		ng/l							
Selenium	-3.11		ng/l							U
Thallium	1.31		ng/l							
Vanadium	44.4		ng/l							
Zinc	-29.5		ng/l							U
Calibration Blank (2408042-CCB2)				Prepared & Analyzed: 08/13/24						
Antimony	-1.37		ng/l							U
Arsenic	-3.88		ng/l							U
Barium	-2.86		ng/l							U
Beryllium	0.0226		ng/l							
Cadmium	-0.171		ng/l							U
Chromium	4.39		ng/l							
Cobalt	0.336		ng/l							
Copper	97.2		ng/l							
Lead	2.10		ng/l							
Manganese	7.24		ng/l							
Molybdenum	6.06		ng/l							
Nickel	-1.11		ng/l							U
Selenium	-7.57		ng/l							U
Thallium	1.07		ng/l							
Vanadium	27.2		ng/l							
Zinc	68.8		ng/l							
Calibration Blank (2408042-CCB3)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	-1.63		ng/l							U
Arsenic	-0.113		ng/l							U
Barium	-1.68		ng/l							U
Beryllium	-0.254		ng/l							U

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Blank (2408042-CCB3) Contin				Prepared: 08/13/24 Analyzed: 08/14/24						
Cadmium	0.0278		ng/l							
Chromium	3.16		ng/l							
Cobalt	0.336		ng/l							
Copper	59.7		ng/l							
Lead	1.76		ng/l							
Manganese	5.04		ng/l							
Molybdenum	7.26		ng/l							
Nickel	-1.73		ng/l							U
Selenium	-4.65		ng/l							U
Thallium	1.31		ng/l							
Vanadium	2.16		ng/l							
Zinc	-33.0		ng/l							U
Calibration Blank (2408042-CCB4)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	-2.39		ng/l							U
Arsenic	-0.707		ng/l							U
Barium	-0.595		ng/l							U
Beryllium	-0.418		ng/l							U
Cadmium	-0.0471		ng/l							U
Chromium	3.45		ng/l							
Cobalt	0.452		ng/l							
Copper	74.8		ng/l							
Lead	1.52		ng/l							
Manganese	4.04		ng/l							
Molybdenum	6.24		ng/l							
Nickel	-0.368		ng/l							U
Selenium	6.39		ng/l							
Thallium	1.05		ng/l							
Vanadium	-3.96		ng/l							U
Zinc	-48.3		ng/l							U
Calibration Blank (2408042-CCB5)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	-2.40		ng/l							U
Arsenic	2.12		ng/l							
Barium	-1.42		ng/l							U
Beryllium	-0.768		ng/l							U
Cadmium	0.0297		ng/l							
Chromium	2.65		ng/l							
Cobalt	0.122		ng/l							
Copper	57.9		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Blank (2408042-CCB5) Contin				Prepared: 08/13/24 Analyzed: 08/14/24						
Lead	1.20		ng/l							
Manganese	3.00		ng/l							
Molybdenum	7.84		ng/l							
Nickel	-1.34		ng/l							U
Selenium	-1.05		ng/l							U
Thallium	1.11		ng/l							
Vanadium	-3.95		ng/l							U
Zinc	-20.5		ng/l							U
Calibration Blank (2408042-CCB6)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	-2.13		ng/l							U
Arsenic	5.62		ng/l							
Barium	1.22		ng/l							
Beryllium	-0.143		ng/l							U
Cadmium	0.325		ng/l							
Chromium	5.08		ng/l							
Cobalt	0.582		ng/l							
Copper	71.7		ng/l							
Lead	2.55		ng/l							
Manganese	9.26		ng/l							
Molybdenum	6.44		ng/l							
Nickel	-0.104		ng/l							U
Selenium	12.5		ng/l							
Thallium	1.22		ng/l							
Vanadium	-6.45		ng/l							U
Zinc	-20.3		ng/l							U
Calibration Blank (2408042-CCB7)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	-2.17		ng/l							U
Arsenic	2.17		ng/l							
Barium	-2.00		ng/l							U
Beryllium	-0.549		ng/l							U
Cadmium	-0.132		ng/l							U
Chromium	5.58		ng/l							
Cobalt	0.450		ng/l							
Copper	41.7		ng/l							
Lead	1.66		ng/l							
Manganese	7.26		ng/l							
Molybdenum	6.15		ng/l							
Nickel	-1.90		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Blank (2408042-CCB7) Contin				Prepared: 08/13/24 Analyzed: 08/14/24						
Selenium	4.24		ng/l							
Thallium	1.30		ng/l							
Vanadium	-5.46		ng/l							U
Zinc	-26.5		ng/l							U
Calibration Check (2408042-CCV1)				Prepared & Analyzed: 08/13/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2408042-CCV2)				Prepared & Analyzed: 08/13/24						
Antimony	19400		ng/l	20000		97.0	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	191000		ng/l	200000		95.5	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	19600		ng/l	20000		98.2	90-110			
Chromium	232000		ng/l	240000		96.6	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	195000		ng/l	200000		97.7	90-110			
Manganese	481000		ng/l	500000		96.2	90-110			
Molybdenum	47600		ng/l	50000		95.2	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	469		ng/l	500.00		93.9	90-110			
Vanadium	19300		ng/l	20000		96.4	90-110			
Zinc	495000		ng/l	500000		98.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Check (2408042-CCV3)				Prepared & Analyzed: 08/13/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	49500		ng/l	50000		99.0	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	470		ng/l	500.00		94.1	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2408042-CCV4)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	478		ng/l	500.00		95.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2408042-CCV5)				Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Check (2408042-CCV5) Contin					Prepared: 08/13/24 Analyzed: 08/14/24					
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	498000		ng/l	500000		99.7	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	472		ng/l	500.00		94.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2408042-CCV6)					Prepared: 08/13/24 Analyzed: 08/14/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4990		ng/l	5000.0		99.9	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	477		ng/l	500.00		95.3	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2408042-CCV7)					Prepared: 08/13/24 Analyzed: 08/14/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Calibration Check (2408042-CCV7) Contin					Prepared: 08/13/24 Analyzed: 08/14/24					
Lead	202000		ng/l	200000		101	90-110			
Manganese	494000		ng/l	500000		98.8	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	467		ng/l	500.00		93.4	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			
High Cal Check (2408042-HCV1)					Prepared & Analyzed: 08/13/24					
Antimony	39900		ng/l	40000		99.7	95-105			
Arsenic	39800		ng/l	40000		99.6	95-105			
Barium	397000		ng/l	400000		99.3	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39500		ng/l	40000		98.6	95-105			
Chromium	483000		ng/l	480000		101	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.98E6		ng/l	4.0000E6		99.5	95-105			
Lead	398000		ng/l	400000		99.5	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	98600		ng/l	100000		98.6	95-105			
Nickel	237000		ng/l	240000		98.9	95-105			
Selenium	39800		ng/l	40000		99.5	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2408042-ICB1)					Prepared & Analyzed: 08/13/24					
Antimony	-0.680		ng/l							U
Arsenic	-3.56		ng/l							U
Barium	-1.60		ng/l							U
Beryllium	-0.195		ng/l							U
Cadmium	-0.0651		ng/l							U
Chromium	1.39		ng/l							
Cobalt	0.189		ng/l							
Copper	103		ng/l							
Lead	2.27		ng/l							
Manganese	6.19		ng/l							
Molybdenum	8.37		ng/l							
Nickel	-2.14		ng/l							U

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Initial Cal Blank (2408042-ICB1) Continu				Prepared & Analyzed: 08/13/24						
Selenium	2.73		ng/l							
Thallium	0.832		ng/l							
Vanadium	82.2		ng/l							
Zinc	-20.3		ng/l							U
Initial Cal Check (2408042-ICV1)				Prepared & Analyzed: 08/13/24						
Antimony	19400		ng/l	20000		97.0	90-110			
Arsenic	19300		ng/l	20000		96.5	90-110			
Barium	193000		ng/l	200000		96.4	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	47200		ng/l	50000		94.5	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	487000		ng/l	500000		97.5	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19500		ng/l	20000		97.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2408042-IFA1)				Prepared & Analyzed: 08/13/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	314000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408042 - B4H1304										
Interference Check B (2408042-IFB1)				Prepared & Analyzed: 08/13/24						
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	198000		ng/l	200000		98.9	80-120			
Beryllium	4760		ng/l	5000.0		95.3	80-120			
Cadmium	19700		ng/l	20000		98.4	80-120			
Chromium	232000		ng/l	240000		96.6	80-120			
Cobalt	49500		ng/l	50000		99.1	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.5	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	488000		ng/l	500000		97.6	80-120			
Molybdenum	368000		ng/l	350000		105	80-120			
Nickel	117000		ng/l	120000		97.8	80-120			
Selenium	19200		ng/l	20000		96.0	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	18600		ng/l	20000		92.8	80-120			
Zinc	467000		ng/l	500000		93.5	80-120			
Batch B4H1304 - ICP-MS Extraction										
Blank (B4H1304-BLK1)				Prepared & Analyzed: 08/13/24						
Antimony	ND	0.0386	ng/m³ Air							U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4H1304-BS1)				Prepared & Analyzed: 08/13/24						
Antimony	0.511	0.0386	ng/m³ Air	1.3829		37.0	80-120			
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	27.9	1.07	ng/m³ Air	27.658		101	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
LCS (B4H1304-BS1) Continued					Prepared & Analyzed: 08/13/24					
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.9	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		97.1	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.3	80-120			
Manganese	8.51	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.64	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.13	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.5	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.8	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	90.0	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4H1304-BS2)					Prepared & Analyzed: 08/13/24					
Antimony	0.479	0.0386	ng/m³ Air	1.3829		34.7	80-120			
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.9	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.37	0.0741	ng/m³ Air	1.3829		99.4	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.4	80-120			
Copper	28.3	2.63	ng/m³ Air	27.658		102	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.7	80-120			
Manganese	8.33	1.89	ng/m³ Air	8.2975		100	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.03	0.652	ng/m³ Air	2.7658		110	80-120			
Selenium	2.66	0.00896	ng/m³ Air	2.7658		96.2	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.9	80-120			
Zinc	88.1	76.8	ng/m³ Air	82.975		106	80-120			
Duplicate (B4H1304-DUP1)		**Source: 4081227-11**			Prepared & Analyzed: 08/13/24					
Antimony	0.116	0.0290	ng/m³ Air		0.111			4.46	10	
Arsenic	0.287	0.00705	ng/m³ Air		0.260			9.74	10	
Barium	3.50	0.805	ng/m³ Air		3.34			4.76	10	
Beryllium	0.0107	0.00241	ng/m³ Air		0.0101			6.01	10	
Cadmium	ND	0.0558	ng/m³ Air		ND				10	U
Chromium	2.10	1.66	ng/m³ Air		1.99			5.44	10	
Cobalt	0.310	0.0328	ng/m³ Air		0.290			6.77	10	

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REPORTED: 08/29/24 09:16
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Duplicate (B4H1304-DUP1) Continued			**Source: 4081227-11**		Prepared & Analyzed: 08/13/24					
Copper	57.0	1.98	ng/m³ Air		56.8			0.179	10	
Lead	0.905	0.161	ng/m³ Air		0.842			7.22	10	
Manganese	9.46	1.42	ng/m³ Air		9.20			2.73	10	
Molybdenum	1.95	0.270	ng/m³ Air		1.89			3.11	10	
Nickel	1.11	0.491	ng/m³ Air		1.03			7.56	10	
Selenium	0.180	0.00674	ng/m³ Air		0.169			6.34	10	
Thallium	8.51E-4	4.43E-4	ng/m³ Air		9.56E-4			11.6	10	
Vanadium	1.33	0.0398	ng/m³ Air		1.25			5.79	10	
Zinc	ND	57.8	ng/m³ Air		ND				10	U
Duplicate (B4H1304-DUP2)			**Source: 4081227-31**		Prepared & Analyzed: 08/13/24					
Antimony	0.0847	0.0345	ng/m³ Air		0.0922			8.45	10	
Arsenic	0.676	0.00837	ng/m³ Air		0.660			2.34	10	
Barium	4.04	0.955	ng/m³ Air		4.09			1.21	10	
Beryllium	0.0210	0.00286	ng/m³ Air		0.0215			2.23	10	
Cadmium	ND	0.0662	ng/m³ Air		ND				10	U
Chromium	3.55	1.97	ng/m³ Air		3.38			4.87	10	
Cobalt	0.636	0.0389	ng/m³ Air		0.631			0.736	10	
Copper	30.2	2.35	ng/m³ Air		31.9			5.25	10	
Lead	0.857	0.191	ng/m³ Air		0.819			4.57	10	
Manganese	18.8	1.69	ng/m³ Air		18.9			0.470	10	
Molybdenum	1.73	0.321	ng/m³ Air		1.83			5.59	10	
Nickel	1.53	0.582	ng/m³ Air		1.54			0.852	10	
Selenium	0.225	0.00800	ng/m³ Air		0.216			3.77	10	
Thallium	0.00128	5.26E-4	ng/m³ Air		0.00128			0.0787	10	
Vanadium	1.58	0.0472	ng/m³ Air		1.56			0.850	10	
Zinc	ND	68.6	ng/m³ Air		ND				10	U
Duplicate (B4H1304-DUP3)			**Source: 4081227-06**		Prepared: 08/13/24 Analyzed: 08/14/24					
Antimony	0.0510	0.0322	ng/m³ Air		0.0513			0.573	10	
Arsenic	0.369	0.00782	ng/m³ Air		0.369			0.0172	10	
Barium	4.25	0.893	ng/m³ Air		4.26			0.351	10	
Beryllium	0.0169	0.00267	ng/m³ Air		0.0172			1.49	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	4.01	1.84	ng/m³ Air		4.01			0.0348	10	
Cobalt	0.755	0.0364	ng/m³ Air		0.757			0.199	10	
Copper	124	2.19	ng/m³ Air		124			0.313	10	
Lead	0.389	0.179	ng/m³ Air		0.390			0.296	10	
Manganese	18.5	1.58	ng/m³ Air		18.4			0.329	10	
Molybdenum	6.32	0.300	ng/m³ Air		6.37			0.879	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Duplicate (B4H1304-DUP3) Continued		**Source: 4081227-06**		Prepared: 08/13/24 Analyzed: 08/14/24						
Nickel	2.13	0.544	ng/m³ Air		2.13			0.0470	10	
Selenium	0.185	0.00748	ng/m³ Air		0.196			5.74	10	
Thallium	0.00141	4.91E-4	ng/m³ Air		0.00147			4.31	10	
Vanadium	2.28	0.0441	ng/m³ Air		2.28			0.277	10	
Zinc	ND	64.1	ng/m³ Air		ND				10	U
Duplicate (B4H1304-DUP4)		**Source: 4081227-21**		Prepared: 08/13/24 Analyzed: 08/14/24						
Antimony	0.0352	0.0327	ng/m³ Air		0.0357			1.66	10	
Arsenic	0.132	0.00793	ng/m³ Air		0.130			1.99	10	
Barium	4.03	0.905	ng/m³ Air		3.99			0.985	10	
Beryllium	0.0111	0.00271	ng/m³ Air		0.0118			6.80	10	
Cadmium	ND	0.0627	ng/m³ Air		ND				10	U
Chromium	1.96	1.87	ng/m³ Air		1.95			0.451	10	
Cobalt	0.242	0.0369	ng/m³ Air		0.239			1.46	10	
Copper	38.5	2.23	ng/m³ Air		38.4			0.342	10	
Lead	0.308	0.181	ng/m³ Air		0.307			0.434	10	
Manganese	6.16	1.60	ng/m³ Air		6.18			0.343	10	
Molybdenum	1.96	0.304	ng/m³ Air		1.95			0.311	10	
Nickel	0.873	0.552	ng/m³ Air		0.863			1.14	10	
Selenium	0.142	0.00758	ng/m³ Air		0.130			8.22	10	
Thallium	6.60E-4	4.98E-4	ng/m³ Air		7.16E-4			8.15	10	
Vanadium	0.766	0.0448	ng/m³ Air		0.764			0.368	10	
Zinc	ND	65.0	ng/m³ Air		ND				10	U
Matrix Spike (B4H1304-MS1)		**Source: 4081227-11**		Prepared & Analyzed: 08/13/24						
Antimony	0.660	0.0290	ng/m³ Air	1.0405	0.111	52.7	80-120			
Arsenic	2.24	0.00705	ng/m³ Air	2.0810	0.260	95.3	80-120			
Barium	23.9	0.805	ng/m³ Air	20.810	3.34	99.0	80-120			
Beryllium	1.02	0.00241	ng/m³ Air	1.0405	0.0101	96.7	80-120			
Cadmium	1.05	0.0558	ng/m³ Air	1.0405	ND	101	80-120			
Chromium	12.3	1.66	ng/m³ Air	10.405	1.99	99.0	80-120			
Cobalt	1.27	0.0328	ng/m³ Air	1.0405	0.290	94.5	80-120			
Copper	82.0	1.98	ng/m³ Air	20.810	56.8	121	80-120			
Lead	11.6	0.161	ng/m³ Air	10.405	0.842	103	80-120			
Manganese	14.9	1.42	ng/m³ Air	6.2429	9.20	90.9	80-120			
Molybdenum	2.89	0.270	ng/m³ Air	1.0405	1.89	96.0	80-120			
Nickel	3.08	0.491	ng/m³ Air	2.0810	1.03	98.2	80-120			
Selenium	2.15	0.00674	ng/m³ Air	2.0810	0.169	95.1	80-120			
Thallium	0.100	4.43E-4	ng/m³ Air	0.10405	9.56E-4	95.4	80-120			
Vanadium	3.25	0.0398	ng/m³ Air	2.0810	1.25	96.0	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Matrix Spike (B4H1304-MS1) Continued Source: 4081227-11 Prepared & Analyzed: 08/13/24										
Zinc	78.3	57.8	ng/m³ Air	62.429	ND	125	80-120			
Matrix Spike (B4H1304-MS2) Source: 4081227-31 Prepared & Analyzed: 08/13/24										
Antimony	0.675	0.0345	ng/m³ Air	1.2349	0.0922	47.2	80-120			
Arsenic	3.00	0.00837	ng/m³ Air	2.4698	0.660	94.7	80-120			
Barium	28.9	0.955	ng/m³ Air	24.698	4.09	101	80-120			
Beryllium	1.22	0.00286	ng/m³ Air	1.2349	0.0215	97.3	80-120			
Cadmium	1.23	0.0662	ng/m³ Air	1.2349	ND	99.8	80-120			
Chromium	15.8	1.97	ng/m³ Air	12.349	3.38	100	80-120			
Cobalt	1.80	0.0389	ng/m³ Air	1.2349	0.631	94.5	80-120			
Copper	58.4	2.35	ng/m³ Air	24.698	31.9	108	80-120			
Lead	13.1	0.191	ng/m³ Air	12.349	0.819	99.8	80-120			
Manganese	26.6	1.69	ng/m³ Air	7.4095	18.9	103	80-120			
Molybdenum	3.07	0.321	ng/m³ Air	1.2349	1.83	100	80-120			
Nickel	4.07	0.582	ng/m³ Air	2.4698	1.54	102	80-120			
Selenium	2.57	0.00800	ng/m³ Air	2.4698	0.216	95.3	80-120			
Thallium	0.119	5.26E-4	ng/m³ Air	0.12349	0.00128	95.4	80-120			
Vanadium	4.02	0.0472	ng/m³ Air	2.4698	1.56	99.4	80-120			
Zinc	85.7	68.6	ng/m³ Air	74.095	ND	116	80-120			
Matrix Spike Dup (B4H1304-MSD1) Source: 4081227-11 Prepared & Analyzed: 08/13/24										
Antimony	0.662	0.0290	ng/m³ Air	1.0405	0.111	52.9	80-120	0.268	20	
Arsenic	2.24	0.00705	ng/m³ Air	2.0810	0.260	95.2	80-120	0.0413	20	
Barium	24.2	0.805	ng/m³ Air	20.810	3.34	100	80-120	0.881	20	
Beryllium	1.03	0.00241	ng/m³ Air	1.0405	0.0101	97.6	80-120	0.964	20	
Cadmium	1.03	0.0558	ng/m³ Air	1.0405	ND	99.3	80-120	2.03	20	
Chromium	12.1	1.66	ng/m³ Air	10.405	1.99	96.7	80-120	1.92	20	
Cobalt	1.25	0.0328	ng/m³ Air	1.0405	0.290	92.7	80-120	1.46	20	
Copper	73.8	1.98	ng/m³ Air	20.810	56.8	81.7	80-120	10.4	20	
Lead	11.2	0.161	ng/m³ Air	10.405	0.842	99.7	80-120	3.13	20	
Manganese	14.5	1.42	ng/m³ Air	6.2429	9.20	84.3	80-120	2.78	20	
Molybdenum	2.89	0.270	ng/m³ Air	1.0405	1.89	96.0	80-120	0.0153	20	
Nickel	2.99	0.491	ng/m³ Air	2.0810	1.03	94.2	80-120	2.78	20	
Selenium	2.14	0.00674	ng/m³ Air	2.0810	0.169	95.0	80-120	0.140	20	
Thallium	0.0995	4.43E-4	ng/m³ Air	0.10405	9.56E-4	94.7	80-120	0.695	20	
Vanadium	3.21	0.0398	ng/m³ Air	2.0810	1.25	94.0	80-120	1.27	20	
Zinc	73.3	57.8	ng/m³ Air	62.429	ND	117	80-120	6.55	20	
Matrix Spike Dup (B4H1304-MSD2) Source: 4081227-31 Prepared & Analyzed: 08/13/24										
Antimony	0.735	0.0345	ng/m³ Air	1.2349	0.0922	52.0	80-120	8.52	20	
Arsenic	3.12	0.00837	ng/m³ Air	2.4698	0.660	99.6	80-120	3.96	20	

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Matrix Spike Dup (B4H1304-MSD2) Conti			**Source: 4081227-31**		Prepared & Analyzed: 08/13/24					
Barium	29.6	0.955	ng/m³ Air	24.698	4.09	103	80-120	2.40	20	
Beryllium	1.11	0.00286	ng/m³ Air	1.2349	0.0215	88.5	80-120	9.36	20	
Cadmium	1.25	0.0662	ng/m³ Air	1.2349	ND	102	80-120	1.78	20	
Chromium	16.0	1.97	ng/m³ Air	12.349	3.38	102	80-120	1.49	20	
Cobalt	1.83	0.0389	ng/m³ Air	1.2349	0.631	96.9	80-120	1.58	20	
Copper	55.8	2.35	ng/m³ Air	24.698	31.9	97.1	80-120	4.52	20	
Lead	13.7	0.191	ng/m³ Air	12.349	0.819	104	80-120	4.06	20	
Manganese	26.9	1.69	ng/m³ Air	7.4095	18.9	107	80-120	1.01	20	
Molybdenum	2.93	0.321	ng/m³ Air	1.2349	1.83	89.2	80-120	4.61	20	
Nickel	4.02	0.582	ng/m³ Air	2.4698	1.54	100	80-120	1.25	20	
Selenium	2.64	0.00800	ng/m³ Air	2.4698	0.216	98.3	80-120	2.82	20	
Thallium	0.122	5.26E-4	ng/m³ Air	0.12349	0.00128	97.6	80-120	2.32	20	
Vanadium	4.07	0.0472	ng/m³ Air	2.4698	1.56	101	80-120	1.18	20	
Zinc	86.2	68.6	ng/m³ Air	74.095	ND	116	80-120	0.482	20	
Post Spike (B4H1304-PS1)			**Source: 4081227-11**		Prepared & Analyzed: 08/13/24					
Antimony	0.313	0.0290	ng/m³ Air	0.20810	0.111	97.1	75-125			
Arsenic	1.23	0.00705	ng/m³ Air	1.0405	0.260	92.9	75-125			
Barium	5.28	0.805	ng/m³ Air	2.0810	3.34	93.4	75-125			
Beryllium	0.214	0.00241	ng/m³ Air	0.20810	0.0101	97.8	75-125			
Cadmium	0.119	0.0558	ng/m³ Air	0.10405	ND	115	75-125			
Chromium	2.98	1.66	ng/m³ Air	1.0405	1.99	95.4	75-125			
Cobalt	0.484	0.0328	ng/m³ Air	0.20810	0.290	93.5	75-125			
Copper	67.3	1.98	ng/m³ Air	10.405	56.8	100	75-125			
Lead	21.7	0.161	ng/m³ Air	20.810	0.842	100	75-125			
Manganese	11.0	1.42	ng/m³ Air	2.0810	9.20	85.9	75-125			
Molybdenum	2.83	0.270	ng/m³ Air	1.0405	1.89	90.4	75-125			
Nickel	3.06	0.491	ng/m³ Air	2.0810	1.03	97.5	75-125			
Selenium	1.17	0.00674	ng/m³ Air	1.0405	0.169	96.3	75-125			
Thallium	0.0505	4.43E-4	ng/m³ Air	5.2024E-2	9.56E-4	95.2	75-125			
Vanadium	2.21	0.0398	ng/m³ Air	1.0405	1.25	92.3	75-125			
Zinc	ND	57.8	ng/m³ Air	20.810	ND		75-125			U
Post Spike (B4H1304-PS2)			**Source: 4081227-31**		Prepared & Analyzed: 08/13/24					
Antimony	0.333	0.0345	ng/m³ Air	0.24698	0.0922	97.4	75-125			
Arsenic	1.82	0.00837	ng/m³ Air	1.2349	0.660	94.2	75-125			
Barium	6.52	0.955	ng/m³ Air	2.4698	4.09	98.3	75-125			
Beryllium	0.257	0.00286	ng/m³ Air	0.24698	0.0215	95.4	75-125			
Cadmium	0.139	0.0662	ng/m³ Air	0.12349	ND	112	75-125			
Chromium	4.62	1.97	ng/m³ Air	1.2349	3.38	101	75-125			

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FILE #: 4205.00.003.001
REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Post Spike (B4H1304-PS2) Continued			**Source: 4081227-31**		Prepared & Analyzed: 08/13/24					
Cobalt	0.879	0.0389	ng/m³ Air	0.24698	0.631	100	75-125			
Copper	44.8	2.35	ng/m³ Air	12.349	31.9	105	75-125			
Lead	25.7	0.191	ng/m³ Air	24.698	0.819	101	75-125			
Manganese	21.4	1.69	ng/m³ Air	2.4698	18.9	99.0	75-125			
Molybdenum	3.03	0.321	ng/m³ Air	1.2349	1.83	97.3	75-125			
Nickel	3.99	0.582	ng/m³ Air	2.4698	1.54	99.2	75-125			
Selenium	1.39	0.00800	ng/m³ Air	1.2349	0.216	94.9	75-125			
Thallium	0.0609	5.26E-4	ng/m³ Air	6.1746E-2	0.00128	96.6	75-125			
Vanadium	2.77	0.0472	ng/m³ Air	1.2349	1.56	97.3	75-125			
Zinc	ND	68.6	ng/m³ Air	24.698	ND		75-125			U
Dilution Check (B4H1304-SRL1)			**Source: 4081227-11**		Prepared & Analyzed: 08/13/24					
Antimony	0.108	0.0290	ng/m³ Air		0.111			2.88	10	
Arsenic	0.265	0.00705	ng/m³ Air		0.260			1.79	10	
Barium	3.32	0.805	ng/m³ Air		3.34			0.507	10	
Beryllium	0.0113	0.00241	ng/m³ Air		0.0101			10.8	10	
Cadmium	ND	0.0558	ng/m³ Air		ND				10	U
Chromium	2.03	1.66	ng/m³ Air		1.99			1.84	10	
Cobalt	0.295	0.0328	ng/m³ Air		0.290			1.69	10	
Copper	57.6	1.98	ng/m³ Air		56.8			1.38	10	
Lead	0.821	0.161	ng/m³ Air		0.842			2.57	10	
Manganese	9.49	1.42	ng/m³ Air		9.20			3.05	10	
Molybdenum	1.89	0.270	ng/m³ Air		1.89			0.259	10	
Nickel	1.06	0.491	ng/m³ Air		1.03			2.88	10	
Selenium	0.162	0.00674	ng/m³ Air		0.169			4.34	10	
Thallium	0.00252	4.43E-4	ng/m³ Air		9.56E-4			89.9	10	
Vanadium	1.30	0.0398	ng/m³ Air		1.25			3.83	10	
Zinc	ND	57.8	ng/m³ Air		ND				10	U
Dilution Check (B4H1304-SRL2)			**Source: 4081227-31**		Prepared & Analyzed: 08/13/24					
Antimony	0.0889	0.0345	ng/m³ Air		0.0922			3.67	10	
Arsenic	0.670	0.00837	ng/m³ Air		0.660			1.42	10	
Barium	4.14	0.955	ng/m³ Air		4.09			1.21	10	
Beryllium	0.0216	0.00286	ng/m³ Air		0.0215			0.717	10	
Cadmium	ND	0.0662	ng/m³ Air		ND				10	U
Chromium	3.46	1.97	ng/m³ Air		3.38			2.39	10	
Cobalt	0.651	0.0389	ng/m³ Air		0.631			3.19	10	
Copper	32.8	2.35	ng/m³ Air		31.9			2.78	10	
Lead	0.808	0.191	ng/m³ Air		0.819			1.34	10	
Manganese	19.5	1.69	ng/m³ Air		18.9			2.76	10	

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REPORTED: 08/29/24 09:16
SUBMITTED: 08/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H1304 - ICP-MS Extraction										
Dilution Check (B4H1304-SRL2) ContinueSource: 4081227-31 Prepared & Analyzed: 08/13/24										
Molybdenum	1.89	0.321	ng/m³ Air		1.83			2.83	10	
Nickel	1.60	0.582	ng/m³ Air		1.54			3.94	10	
Selenium	0.217	0.00800	ng/m³ Air		0.216			0.103	10	
Thallium	0.00319	5.26E-4	ng/m³ Air		0.00128			85.3	10	
Vanadium	1.65	0.0472	ng/m³ Air		1.56			5.54	10	
Zinc	ND	68.6	ng/m³ Air		ND				10	U

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SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/29/2024 and Shanna Vasser 08/30/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/01/2024 – 08/07/2024
Report No: 4081227

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for vanadium in MFL-FB01-080524-HM.

Notes:

1. The electronic data deliverable (EDD) was revised on August 29, 2024, to correct the zinc result for sample MFL-AM04-08072024-HM to 11.7 ng/m3 to be consistent with the laboratory report.
2. The laboratory report was revised on August 29, 2024, to correct the sample ID for MFL-FB01-080724-HM, which originally was incorrectly labeled as a duplicate MFL-FB01-080**5**24-HM on page 35 of the laboratory report due to a typographical error.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

August 8 through August 14, 2024
[Report Updated: September 24, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from August 8 through August 14, 2024 at the four community locations listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 8 through August 14 at each of the four locations listed above. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results were below the SSAL of 0.003 structures per cubic centimeter (s/cc) and below the laboratory's analytical sensitivity (see **Table 2**).

The heavy metal sample collected on August 14, 2024, from WW Pump Station #4 was voided because of equipment motor malfunction resulting in insufficient sample time and volume. For all other heavy metals, only low levels (i.e., all below the respective SSALs) were detected in ambient air samples at all community sampling locations (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour originating from a generally southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post- calibration of each sampling pump, according to a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" 073-3 "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," which were included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- ASTM SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook."

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification, and are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 8 through August 14, 2024
[Report Updated: September 24, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/8/2024	Leialii Hawaiian Homelands (AM-01)	8.9
	WW Pump Station #4 (AM-02)	4.6
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Boys & Girls Club (AM-04)	14
8/9/2024	Leialii Hawaiian Homelands (AM-01)	6.3
	WW Pump Station #4 (AM-02)	5.1
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Boys & Girls Club (AM-04)	17
8/10/2024	Leialii Hawaiian Homelands (AM-01)	6.6
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	15
8/11/2024	Leialii Hawaiian Homelands (AM-01)	16
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.7
8/12/2024	Leialii Hawaiian Homelands (AM-01)	16
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	7.5
	Lahaina Boys & Girls Club (AM-04)	14
8/13/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	32
8/14/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	9.8
	Lahaina Boys & Girls Club (AM-04)	15

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 8 through August 14, 2024
[Report Updated: September 24, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
8/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000431	0.00301	0.00715	0.0000301	ND	0.00734	0.00149	0.259	0.000304	0.0344	0.0117	0.00328	0.000225	0.00000188	0.00443	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000168	0.000309	0.00436	0.0000127	ND	0.00218	0.000360	0.0438	0.000635	0.0121	0.00212	0.000977	0.000162	0.000000940	0.00127	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000465	0.000158	0.00295	0.0000246	ND	0.00254	0.000439	0.0485	0.000537	0.0117	0.00215	0.00115	0.000150	0.000000897	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000686	0.000229	0.00258	0.0000102	ND	0.00224	0.000322	0.0338	0.000392	0.0106	0.00181	0.000929	0.000131	0.000000748	0.000965	ND
8/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000837	0.00164	0.00838	0.0000367	ND	0.00704	0.00149	0.215	0.000533	0.0368	0.0100	0.00337	0.000230	0.00000168	0.00455	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000191	0.000368	0.00506	0.0000136	ND	0.00252	0.000447	0.0445	0.000849	0.0129	0.00216	0.00123	0.000148	0.000000798	0.00152	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000650	0.000140	0.00291	0.0000209	ND	0.00222	0.000358	0.0394	0.000278	0.00914	0.00191	0.00117	0.000111	0.000000675	0.00103	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000111	0.000399	0.00356	0.00000940	ND	0.00228	0.000341	0.0439	0.000689	0.0107	0.00202	0.00114	0.000119	0.000000654	0.00103	ND
8/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000465	0.000591	0.00305	0.0000107	ND	0.00305	0.000413	0.172	0.000238	0.0110	0.0102	0.00132	0.000137	0.00000101	0.00138	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000107	0.000272	0.00383	0.0000108	ND	0.00251	0.000297	0.0620	0.000687	0.00968	0.00357	0.000905	0.000161	0.000000960	0.00104	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000369	0.000156	0.00259	0.0000235	ND	0.00260	0.000363	0.0538	0.000261	0.00939	0.00405	0.000973	0.000142	0.000000978	0.00102	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000101	0.000358	0.00338	0.00000955	ND	0.00283	0.000344	0.0367	0.000696	0.0115	0.00237	0.00112	0.000160	0.000000944	0.000879	ND
8/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000340	0.000315	0.00233	0.00000630	ND	0.00226	0.000243	0.211	0.000237	0.00630	0.0141	0.000798	0.000173	0.00000137	0.000872	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000138	0.000312	0.00385	0.0000108	ND	0.00258	0.000288	0.0507	0.000928	0.00898	0.00421	0.00114	0.000229	0.00000173	0.00120	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000118	0.00219	0.0000132	ND	0.00213	0.000254	0.0441	0.000315	0.00649	0.00397	0.000828	0.000149	0.00000117	0.000793	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000119	0.000238	0.00312	0.00000677	ND	ND	0.000214	0.0309	0.000593	0.00716	0.00219	0.00105	0.000203	0.00000145	0.000970	ND
8/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000759	0.00203	0.0190	0.0000790	ND	0.00757	0.001800	0.316	0.000930	0.0638	0.0214	0.00354	0.000431	0.00000535	0.00752	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000101	0.000355	0.00331	0.00000779	ND	ND	0.000203	0.0438	0.000554	0.00677	0.00427	0.000895	0.000212	0.00000135	0.00108	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000746	0.000155	0.00345	0.0000187	ND	0.00213	0.000334	0.0687	0.000657	0.00866	0.00504	0.00209	0.000180	0.00000127	0.00113	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000965	0.000183	0.00282	0.00000589	ND	ND	0.000177	0.0307	0.000442	0.00598	0.00178	0.000983	0.000148	0.00000103	0.000786	ND
8/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000118	0.00284	0.0220	0.0000452	ND	0.00920	0.00194	0.170	0.000627	0.0474	0.0130	0.00497	0.000333	0.00000332	0.00596	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000149	0.000589	0.00823	0.0000306	0.0000875	0.00507	0.00116	0.0404	0.00111	0.0286	0.00251	0.00323	0.000287	0.0000027	0.00363	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000657	0.000213	0.00370	0.0000278	ND	0.00304	0.000526	0.0505	0.000318	0.0132	0.00378	0.00181	0.000204	0.00000179	0.00150	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000142	0.000460	0.00458	0.0000137	ND	0.00540	0.000530	0.0414	0.000644	0.0154	0.00239	0.00311	0.000210	0.00000197	0.00142	ND
8/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000878	0.00210	0.0117	0.0000528	0.0000969	0.00993	0.00235	0.189	0.000778	0.0546	0.0123	0.00528	0.000372	0.00000331	0.00678	ND
	WW Pump Station #4 (AM-02)	<0.0024																
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000590	0.000210	0.00332	0.0000313	ND	0.00290	0.000501	0.0377	0.000549	0.0120	0.00306	0.00133	0.000185	0.00000159	0.00140	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000780	0.000397	0.00292	0.0000132	ND	0.00273	0.000419	0.0364	0.000470	0.0121	0.00228	0.00124	0.000167	0.00000161	0.00116	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000970	0.00659	0.0000280	NA	0.00479	0.000860	0.118	0.000670	0.0226	0.00750	0.00229	0.000220	0.00000190	0.00266	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

HM Sample voided due to equipment motor malfunction

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
August 8 through August 14, 2024
[Report Updated: September 24, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/8/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	85	59	759.9
8/8/2024	AM-02	WW Pump Station #4	1.1	SE	84	65	762.0
8/8/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	752.5
8/8/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	67	761.5
8/9/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	86	56	759.2
8/9/2024	AM-02	WW Pump Station #4	1.1	SSE	84	63	761.2
8/9/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	61	751.7
8/9/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	64	760.7
8/10/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	87	57	760.2
8/10/2024	AM-02	WW Pump Station #4	1.1	SSE	84	65	762.3
8/10/2024	AM-03	Lahaina Intermediate School	1.1	ESE	81	62	752.8
8/10/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	66	761.8
8/11/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	88	59	761.4
8/11/2024	AM-02	WW Pump Station #4	1.1	S	84	68	763.5
8/11/2024	AM-03	Lahaina Intermediate School	1.1	ESE	81	65	754.0
8/11/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	80	69	763.0
8/12/2024	AM-01	Leialii Hawaiian Homelands	1.4	SE	87	58	761.6
8/12/2024	AM-02	WW Pump Station #4	1.2	SSE	83	65	763.7
8/12/2024	AM-03	Lahaina Intermediate School	1.2	SE	82	62	754.3
8/12/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSW	81	66	763.3
8/13/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	86	55	760.8
8/13/2024	AM-02	WW Pump Station #4	1.0	SE	82	62	763.0
8/13/2024	AM-03	Lahaina Intermediate School	1.2	ESE	82	60	753.6
8/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	82	63	762.6
8/14/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	86	54	760.6
8/14/2024	AM-02	WW Pump Station #4	1.1	SE	81	59	762.8
8/14/2024	AM-03	Lahaina Intermediate School	1.2	ESE	81	58	753.4
8/14/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	80	61	762.4

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-080824-AB** **Sample Description:** **DL274923**

EMSL Sample Number:	042416969-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0001 **Customer Sample:** MFL-AM01-080824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A3	None Detected									
B2	D6	None Detected									
B2	I4	None Detected									
B3	I3	None Detected									
B3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-080824-AB** **Sample Description:** **DL274883**

EMSL Sample Number:	042416969-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0002 **Customer Sample:** MFL-AM02-080824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B6	None Detected									
B5	G5	None Detected									
B5	I3	None Detected									
B6	C6	None Detected									
B6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-080824-AB**	**Sample Description:**	**DL274951**
EMSL Sample Number:	042416969-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7198.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0003 **Customer Sample:** MFL-AM03-080824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	E4	None Detected									
C2	J1	None Detected									
C3	C4	None Detected									
C3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-080824-AB** **Sample Description:** **DL274847**

EMSL Sample Number:	042416969-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0004 **Customer Sample:** MFL-AM04-080824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I2	None Detected									
C5	F1	None Detected									
C5	C4	None Detected									
C6	C8	None Detected									
C6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080824-AB** **Sample Description:** **DL274849**

EMSL Sample Number:	042416969-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0005 **Customer Sample:** MFL-FB01-080824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J8	None Detected									
D2	H6	None Detected									
D2	F7	None Detected									
D2	D9	None Detected									
D2	B7	None Detected									
D3	J6	None Detected									
D3	H4	None Detected									
D3	F2	None Detected									
D3	D4	None Detected									
D3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-080924-AB**	**Sample Description:**	**DL275037**
EMSL Sample Number:	042416969-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7198.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0006 **Customer Sample:** MFL-AM01-080924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I5	None Detected									
D5	E10	None Detected									
D5	B7	None Detected									
D6	B4	None Detected									
D6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-080924-AB**		**Sample Description:**	**DL274858**
EMSL Sample Number:	042416969-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7323.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0007 **Customer Sample:** MFL-AM02-080924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I3	None Detected									
E2	F3	None Detected									
E2	A4	None Detected									
E3	G5	None Detected									
E3	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-080924-AB** **Sample Description:** **DL274876**

EMSL Sample Number:	042416969-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0008 **Customer Sample:** MFL-AM03-080924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I3	None Detected									
E5	F1	None Detected									
E5	B2	None Detected									
E6	B10	None Detected									
E6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project: **Maui Fires - Lahaina**

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Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-080924-AB** **Sample Description:** **DL274844**

EMSL Sample Number:	042416969-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7182.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0009 **Customer Sample:** MFL-AM04-080924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J4	None Detected									
F2	G7	None Detected									
F2	C8	None Detected									
F3	G9	None Detected									
F3	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-080924-AB** **Sample Description:** **DL274992**

EMSL Sample Number:	042416969-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0010 **Customer Sample:** MFL-FB01-080924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J8	None Detected									
F5	H7	None Detected									
F5	F10	None Detected									
F5	D7	None Detected									
F5	B4	None Detected									
F6	J7	None Detected									
F6	H8	None Detected									
F6	F2	None Detected									
F6	C5	None Detected									
F6	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081024-AB** **Sample Description:** **DL275071**

EMSL Sample Number:	042416969-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0011 **Customer Sample:** MFL-AM01-081024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	I6	None Detected									
G2	G3	None Detected									
G2	D4	None Detected									
G3	D5	None Detected									
G3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081024-AB** **Sample Description:** **DL275128**

EMSL Sample Number:	042416969-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7061.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0012 **Customer Sample:** MFL-AM02-081024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A9	None Detected									
G5	D5	None Detected									
G5	G10	None Detected									
G6	I4	None Detected									
G6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081024-AB** **Sample Description:** **DL274838**

EMSL Sample Number:	042416969-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0013 **Customer Sample:** MFL-AM03-081024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B9	None Detected									
H2	D5	None Detected									
H2	I8	None Detected									
H3	I3	None Detected									
H3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081024-AB** **Sample Description:** **DL275057**

EMSL Sample Number:	042416969-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7127.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0014 **Customer Sample:** MFL-AM04-081024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H7	H7	None Detected									
H7	F9	None Detected									
H7	D7	None Detected									
H8	D3	None Detected									
H8	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081024-AB** **Sample Description:** **DL274875**

EMSL Sample Number:	042416969-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0015 **Customer Sample:** MFL-FB01-081024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A7	None Detected									
I2	C9	None Detected									
I2	E7	None Detected									
I2	G10	None Detected									
I2	I6	None Detected									
I3	J4	None Detected									
I3	H3	None Detected									
I3	F1	None Detected									
I3	D4	None Detected									
I3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-081124-AB**	**Sample Description:**	**DL275105**
EMSL Sample Number:	042416969-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7184.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0016 **Customer Sample:** MFL-AM01-081124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	I3	None Detected									
I5	G1	None Detected									
I5	C3	None Detected									
I6	D5	None Detected									
I6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081124-AB** **Sample Description: DL275099**

EMSL Sample Number:	042416969-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0017 **Customer Sample:** MFL-AM02-081124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J7	None Detected									
J2	G5	None Detected									
J2	D6	None Detected									
J3	C9	None Detected									
J3	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081124-AB** **Sample Description:** **DL274886**

EMSL Sample Number:	042416969-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0018 **Customer Sample:** MFL-AM03-081124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	C10	None Detected									
J5	G7	None Detected									
J5	J9	None Detected									
J6	C9	None Detected									
J6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081124-AB** **Sample Description:** **DL275044**

EMSL Sample Number:	042416969-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0019 **Customer Sample:** MFL-AM04-081124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A8	None Detected									
K2	F4	None Detected									
K2	I10	None Detected									
K3	I1	None Detected									
K3	F2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081124-AB** **Sample Description:** **DL274839**

EMSL Sample Number:	042416969-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0020 **Customer Sample:** MFL-FB01-081124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A10	None Detected									
K5	C9	None Detected									
K5	E7	None Detected									
K5	G9	None Detected									
K5	I10	None Detected									
K6	J5	None Detected									
K6	H3	None Detected									
K6	F4	None Detected									
K6	D3	None Detected									
K6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042416969
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/14/2024 12:00 PM
Analysis Date:	08/19/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042416969-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042416969
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042416969-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J2	None Detected									
A1	H3	None Detected									
A1	F7	None Detected									
A1	D9	None Detected									
A1	B10	None Detected									
A2	J10	None Detected									
A2	H6	None Detected									
A2	F3	None Detected									
A2	D5	None Detected									
A2	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042416969

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042416969

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires- LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON NJ 24 AUG 14 P 1:00

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-080824-AB	DL274923	7,186.749	08/08/24 1101
MFL-AM02-080824-AB	DL274883	7,157.579	08/08/24 1114
MFL-AM03-080824-AB	DL274951	7,198.598	08/08/24 1258
MFL-AM04-080824-AB	DL274847	7,194.816	08/08/24 1321
MFL-FB01-080824-AB	DL274849	0	08/08/24 1200
MFL-AM01-080924-AB	DL275037	7,198.668	08/09/24 1059
MFL-AM02-080924-AB	DL274858	7,323.391	08/09/24 1126
MFL-AM03-080924-AB	DL274876	7,203.681	08/09/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
[signature]	08/12/24 1100	[signature] FX	8/14/24 12[illegible]
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-06 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of 20 B

OrderID: 042416969

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042416969

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-080924-AB	DL274844	7,182.144	08/09/24 1326
MFL-FB01-080924-AB	DL274992	0	08/09/24 1200
MFL-AM01-081024-AB	DL275071	7,149.506	08/10/24 1100
MFL-AM02-081024-AB	DL275128	7,061.782	08/10/24 1115
MFL-AM03-081024-AB	DL274838	7,156.002	08/10/24 1259
MFL-AM04-081024-AB	DL275057	7,127.380	08/10/24 1321
MFL-FB01-081024-AB	DL274875	0	08/10/24 1200
MFL-AM01-081124-AB	DL275105	7,184.595	08/11/24 1101
MFL-AM02-081124-AB	DL275099	7,208.433	08/11/24 1114
MFL-AM03-081124-AB	DL274886	7,225.512	08/11/24 1259
MFL-AM04-081124-AB	DL275044	7,178.612	08/11/24 1316
MFL-FB01-081124-AB	DL274839	0	08/11/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 14 PM 12:03

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 08/12/24 1100	Received by: [signature]	Date/Time 8/14/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 2 of 2

Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/26/2024 and Shanna Vasser 08/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/08/2024 – 08/11/2024
Report No: 42416969

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-081224-AB**	**Sample Description:**	**DL274842**
EMSL Sample Number:	042417270-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7231.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0001 **Customer Sample:** MFL-AM01-081224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A4	None Detected									
A5	D9	None Detected									
A5	H10	None Detected									
A6	H3	None Detected									
A6	D1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081224-AB**		**Sample Description:**	**DL275052**
EMSL Sample Number:	042417270-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7125.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0002 **Customer Sample:** MFL-AM02-081224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	E9	None Detected									
B1	G6	None Detected									
B1	J8	None Detected									
B2	C9	None Detected									
B2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081224-AB**	**Sample Description:**	**DL274843**
EMSL Sample Number:	042417270-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0003 **Customer Sample:** MFL-AM03-081224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I2	None Detected									
B5	F4	None Detected									
B5	D2	None Detected									
B6	F2	None Detected									
B6	C1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081224-AB**	**Sample Description:**	**DL274863**
EMSL Sample Number:	042417270-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7177.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0004 **Customer Sample:** MFL-AM04-081224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	C9	None Detected									
C1	E8	None Detected									
C1	F4	None Detected									
C2	B4	None Detected									
C2	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081224-AB** **Sample Description:** **DL274859**

EMSL Sample Number:	042417270-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0005 **Customer Sample:** MFL-FB01-081224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J1	None Detected									
C5	H2	None Detected									
C5	F1	None Detected									
C5	D3	None Detected									
C5	B4	None Detected									
C6	J2	None Detected									
C6	H4	None Detected									
C6	F7	None Detected									
C6	D10	None Detected									
C6	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-081324-AB**	**Sample Description:**	**DL274865**
EMSL Sample Number:	042417270-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7159.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0006 **Customer Sample:** MFL-AM01-081324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A6	None Detected									
D1	D8	None Detected									
D1	J9	None Detected									
D2	H2	None Detected									
D2	D10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081324-AB**		**Sample Description:**	**DL274845**
EMSL Sample Number:	042417270-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0007 **Customer Sample:** MFL-AM02-081324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B6	None Detected									
D5	D5	None Detected									
D5	F3	None Detected									
D6	H5	None Detected									
D6	E1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081324-AB**	**Sample Description:**	**DL274884**
EMSL Sample Number:	042417270-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7218.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0008 **Customer Sample:** MFL-AM03-081324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H4	None Detected									
E1	E2	None Detected									
E1	B4	None Detected									
E2	B9	None Detected									
E2	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081324-AB**		**Sample Description:**	**DL275043**
EMSL Sample Number:	042417270-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0009 **Customer Sample:** MFL-AM04-081324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J8	None Detected									
E5	H5	None Detected									
E5	G9	None Detected									
E6	B5	None Detected									
E6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
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Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081324-AB** **Sample Description:** **DL274848**

EMSL Sample Number:	042417270-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0010 **Customer Sample:** MFL-FB01-081324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J8	None Detected									
F2	H10	None Detected									
F2	F7	None Detected									
F2	D3	None Detected									
F2	B1	None Detected									
F3	J2	None Detected									
F3	H3	None Detected									
F3	F4	None Detected									
F3	D5	None Detected									
F3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081424-AB** **Sample Description:** **DL275089**

EMSL Sample Number:	042417270-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0011 **Customer Sample:** MFL-AM01-081424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	F7	None Detected									
F5	H6	None Detected									
F6	H3	None Detected									
F6	E1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081424-AB** **Sample Description:** **Dl274960**

EMSL Sample Number:	042417270-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0012 **Customer Sample:** MFL-AM02-081424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	F3	None Detected									
G1	D5	None Detected									
G1	B4	None Detected									
G2	I5	None Detected									
G2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081424-AB** **Sample Description:** **DL275080**

EMSL Sample Number:	042417270-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0013 **Customer Sample:** MFL-AM03-081424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J5	None Detected									
G5	G3	None Detected									
G5	D2	None Detected									
G6	C9	None Detected									
G6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081424-AB**		**Sample Description:**	**DL274980**
EMSL Sample Number:	042417270-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0014 **Customer Sample:** MFL-AM04-081424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	C5	None Detected									
H1	E7	None Detected									
H1	G5	None Detected									
H2	B8	None Detected									
H2	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-081424-AB**		**Sample Description:**	**DL274854**
EMSL Sample Number:	042417270-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0015 **Customer Sample:** MFL-FB01-081424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A10	None Detected									
H5	C9	None Detected									
H5	E7	None Detected									
H5	G9	None Detected									
H5	I10	None Detected									
H6	J1	None Detected									
H6	H4	None Detected									
H6	F3	None Detected									
H6	D1	None Detected									
H6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417270
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/19/2024 09:30 AM
Analysis Date:	08/20/2024
Report Date:	08/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042417270-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042417270
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417270-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A2	None Detected									
A2	C3	None Detected									
A2	E2	None Detected									
A2	G3	None Detected									
A2	I2	None Detected									
A3	A2	None Detected									
A3	B6	None Detected									
A3	C3	None Detected									
A3	E7	None Detected									
A3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042417270

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417270

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 2024 AUG 19 A 10:55

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202
Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip:
Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires-Lahaina
Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)
Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-081224-AB	DL274842	7,231.536	08/12/24 1103
MFL-AM02-081224-AB	DL275052	7,125.120	08/12/24 1118
MFL-AM03-081224-AB	DL274843	7,199.424	08/12/24 1302
MFL-AM04-081224-AB	DL274863	7,177.680	08/12/24 1320
MFL-FB01-081224-AB	DL274859	0	08/12/24 1200
MFL-AM01-081324-AB	DL274865	7,159.544	08/13/24 1055
MFL-AM02-081324-AB	DL274845	7,128.407	08/13/24 1112
MFL-AM03-081324-AB	DL274884	7,218.326	08/13/24 1259

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Relinquished by: Shaina Epstein Date/Time: 08/15/24 1100
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: FX Date/Time: 8/15/24 933
Received by: Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042417270

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417270

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-081324-AB	DL275043	7,227.101	08/13/24 1320
MFL-FB01-081324-AB	DL274848	0	08/13/24 1200
MFL-AM01-081424-AB	DL275089	7,148.592	08/14/24 1058
MFL-AM02-081424-AB	DL274960	7,244.261	08/14/24 1122
MFL-AM03-081424-AB	DL275080	7,197.264	08/14/24 1302
MFL-AM04-081424-AB	DL274980	7,227.792	08/14/24 1322
MFL-FB01-081424-AB	DL274854	0	08/14/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 AUG 19 A 10:55

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 08/15/24 1100	Received by: FK	Date/Time: 8/19/24 930
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

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Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/26/2024 and Shanna Vasser 08/27/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/12/2024 – 08/14/2024
Report No: 42417270

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

August 28, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 08/19/24 10:39.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-080824-HM	4082761-01	Air	08/08/24 23:59	08/19/24 10:39
MFL-AM02-080824-HM	4082761-02	Air	08/08/24 23:59	08/19/24 10:39
MFL-AM03-080824-HM	4082761-03	Air	08/08/24 23:59	08/19/24 10:39
MFL-AM04-080824-HM	4082761-04	Air	08/08/24 23:59	08/19/24 10:39
MFL-AM01-080924-HM	4082761-05	Air	08/09/24 23:59	08/19/24 10:39
MFL-AM02-080924-HM	4082761-06	Air	08/09/24 23:59	08/19/24 10:39
MFL-AM03-080924-HM	4082761-07	Air	08/09/24 23:59	08/19/24 10:39
MFL-AM04-080924-HM	4082761-08	Air	08/09/24 23:59	08/19/24 10:39
MFL-FB01-080924-HM	4082761-09	Air	08/09/24 00:00	08/19/24 10:39
MFL-LB01-080924-HM	4082761-10	Air	08/09/24 00:00	08/19/24 10:39
MFL-AM01-081024-HM	4082761-11	Air	08/10/24 23:59	08/19/24 10:39
MFL-AM02-081024-HM	4082761-12	Air	08/10/24 23:59	08/19/24 10:39
MFL-AM03-081024-HM	4082761-13	Air	08/10/24 23:59	08/19/24 10:39
MFL-AM04-081024-HM	4082761-14	Air	08/10/24 23:59	08/19/24 10:39
MFL-AM01-081124-HM	4082761-15	Air	08/11/24 23:59	08/19/24 10:39
MFL-AM02-081124-HM	4082761-16	Air	08/11/24 23:59	08/19/24 10:39
MFL-AM03-081124-HM	4082761-17	Air	08/11/24 23:59	08/19/24 10:39
MFL-AM04-081124-HM	4082761-18	Air	08/11/24 23:59	08/19/24 10:39
MFL-FB01-081124-HM	4082761-19	Air	08/11/24 00:00	08/19/24 10:39
MFL-AM01-081224-HM	4082761-20	Air	08/12/24 23:59	08/19/24 10:39
MFL-AM02-081224-HM	4082761-21	Air	08/12/24 23:59	08/19/24 10:39

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-081224-HM	4082761-22	Air	08/12/24 23:59	08/19/24 10:39
MFL-AM04-081224-HM	4082761-23	Air	08/12/24 23:59	08/19/24 10:39
MFL-AM01-081324-HM	4082761-24	Air	08/13/24 23:59	08/19/24 10:39
MFL-AM02-081324-HM	4082761-25	Air	08/13/24 23:59	08/19/24 10:39
MFL-AM03-081324-HM	4082761-26	Air	08/13/24 23:59	08/19/24 10:39
MFL-AM04-081324-HM	4082761-27	Air	08/13/24 23:59	08/19/24 10:39
MFL-FB01-081324-HM	4082761-28	Air	08/13/24 00:00	08/19/24 10:39
MFL-AM01-081424-HM	4082761-29	Air	08/14/24 23:59	08/19/24 10:39
MFL-AM03-081424-HM	4082761-31	Air	08/14/24 23:59	08/19/24 10:39
MFL-AM04-081424-HM	4082761-32	Air	08/14/24 23:59	08/19/24 10:39
MFL-LB01-081424-HM	4082761-33	Air	08/14/24 00:00	08/19/24 10:39

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080824-HM
Matrix: Air
Lab ID: 4082761-01
Sample Volume: 1964.549 m³
Filter ID:
Sampled: 08/08/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 04:13

Comments: Q9547481 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0431**	SL	**0.0320**
Arsenic	**7440-38-2**	**3.01**		**0.00776**
Barium	**7440-39-3**	**7.15**		**0.886**
Beryllium	**7440-41-7**	**0.0301**		**0.00265**
Cadmium	7440-43-9	0.0152	U	0.0614
Chromium	**7440-47-3**	**7.34**		**1.83**
Cobalt	**7440-48-4**	**1.49**		**0.0361**
Copper	**7440-50-8**	**259**		**2.18**
Lead	**7439-92-1**	**0.304**		**0.177**
Manganese	**7439-96-5**	**34.4**		**1.57**
Molybdenum	**7439-98-7**	**11.7**		**0.297**
Nickel	**7440-02-0**	**3.28**		**0.540**
Selenium	**7782-49-2**	**0.225**		**0.00742**
Thallium	**7440-28-0**	**0.00188**		**4.88E-4**
Vanadium	**7440-62-2**	**4.43**		**0.0438**
Zinc	7440-66-6	10.0	U	63.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080824-HM
Matrix: Air
Lab ID: 4082761-02
Sample Volume: 2006.416 m³
Filter ID:
Sampled: 08/08/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 04:32

Comments: Q9547478 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.168**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.309**		**0.00760**
Barium	**7440-39-3**	**4.36**		**0.868**
Beryllium	**7440-41-7**	**0.0127**		**0.00259**
Cadmium	7440-43-9	0.0111	U	0.0601
Chromium	**7440-47-3**	**2.18**		**1.79**
Cobalt	**7440-48-4**	**0.360**		**0.0354**
Copper	**7440-50-8**	**43.8**		**2.13**
Lead	**7439-92-1**	**0.635**		**0.174**
Manganese	**7439-96-5**	**12.1**		**1.53**
Molybdenum	**7439-98-7**	**2.12**		**0.291**
Nickel	**7440-02-0**	**0.977**		**0.529**
Selenium	**7782-49-2**	**0.162**		**0.00727**
Thallium	**7440-28-0**	**9.40E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.27**		**0.0429**
Zinc	7440-66-6	11.8	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080824-HM
Matrix: Air
Lab ID: 4082761-03
Sample Volume: 1987.846 m³
Filter ID:
Sampled: 08/08/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 01:27

Comments: Q9547476 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0465**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.158**		**0.00767**
Barium	**7440-39-3**	**2.95**		**0.876**
Beryllium	**7440-41-7**	**0.0246**		**0.00262**
Cadmium	7440-43-9	0.00825	U	0.0606
Chromium	**7440-47-3**	**2.54**		**1.81**
Cobalt	**7440-48-4**	**0.439**		**0.0357**
Copper	**7440-50-8**	**48.5**	QM-07	**2.15**
Lead	**7439-92-1**	**0.537**		**0.175**
Manganese	**7439-96-5**	**11.7**		**1.55**
Molybdenum	**7439-98-7**	**2.15**	QM-07	**0.294**
Nickel	**7440-02-0**	**1.15**		**0.534**
Selenium	**7782-49-2**	**0.150**		**0.00733**
Thallium	**7440-28-0**	**8.97E-4**		**4.82E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0433**
Zinc	7440-66-6	11.5	U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080824-HM
Matrix: Air
Lab ID: 4082761-04
Sample Volume: 1831.907 m³
Filter ID:
Sampled: 08/08/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 04:47

Comments: Q9547475 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0686**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.229**		**0.00832**
Barium	**7440-39-3**	**2.58**		**0.950**
Beryllium	**7440-41-7**	**0.0102**		**0.00284**
Cadmium	7440-43-9	0.0127	U	0.0658
Chromium	**7440-47-3**	**2.24**		**1.96**
Cobalt	**7440-48-4**	**0.322**		**0.0387**
Copper	**7440-50-8**	**33.8**		**2.34**
Lead	**7439-92-1**	**0.392**		**0.190**
Manganese	**7439-96-5**	**10.6**		**1.68**
Molybdenum	**7439-98-7**	**1.81**		**0.319**
Nickel	**7440-02-0**	**0.929**		**0.579**
Selenium	**7782-49-2**	**0.131**		**0.00796**
Thallium	**7440-28-0**	**7.48E-4**		**5.23E-4**
Vanadium	**7440-62-2**	**0.965**		**0.0470**
Zinc	7440-66-6	7.65	U	68.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-080924-HM
Matrix: Air
Lab ID: 4082761-05
Sample Volume: 1865.755 m³
Filter ID:
Sampled: 08/09/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 05:01

Comments: Q9547471 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0337**
Arsenic	**7440-38-2**	**1.64**		**0.00817**
Barium	**7440-39-3**	**8.38**		**0.933**
Beryllium	**7440-41-7**	**0.0367**		**0.00279**
Cadmium	7440-43-9	0.0445	U	0.0646
Chromium	**7440-47-3**	**7.04**		**1.93**
Cobalt	**7440-48-4**	**1.49**		**0.0380**
Copper	**7440-50-8**	**215**		**2.29**
Lead	**7439-92-1**	**0.533**		**0.187**
Manganese	**7439-96-5**	**36.8**		**1.65**
Molybdenum	**7439-98-7**	**10.0**		**0.313**
Nickel	**7440-02-0**	**3.37**		**0.569**
Selenium	**7782-49-2**	**0.230**		**0.00781**
Thallium	**7440-28-0**	**0.00168**		**5.14E-4**
Vanadium	**7440-62-2**	**4.55**		**0.0461**
Zinc	7440-66-6	14.6	U	67.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-080924-HM
Matrix: Air
Lab ID: 4082761-06
Sample Volume: 2035.091 m³
Filter ID:
Sampled: 08/09/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 05:16

Comments: Q9547467 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.368**		**0.00749**
Barium	**7440-39-3**	**5.06**		**0.855**
Beryllium	**7440-41-7**	**0.0136**		**0.00256**
Cadmium	7440-43-9	0.0127	U	0.0592
Chromium	**7440-47-3**	**2.52**		**1.77**
Cobalt	**7440-48-4**	**0.447**		**0.0349**
Copper	**7440-50-8**	**44.5**		**2.10**
Lead	**7439-92-1**	**0.849**		**0.171**
Manganese	**7439-96-5**	**12.9**		**1.51**
Molybdenum	**7439-98-7**	**2.16**		**0.287**
Nickel	**7440-02-0**	**1.23**		**0.521**
Selenium	**7782-49-2**	**0.148**		**0.00716**
Thallium	**7440-28-0**	**7.98E-4**		**4.71E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0423**
Zinc	7440-66-6	12.2	U	61.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-080924-HM **Lab ID:** 4082761-07 **Sampled:** 08/09/24 23:59
Matrix: Air **Sample Volume:** 1847.44€ m³ **Received:** 08/19/24 10:39
Filter ID: **Analysis Date:** 08/22/24 05:31

Comments: Q8525729 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0650**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.140**		**0.00825**
Barium	**7440-39-3**	**2.91**		**0.942**
Beryllium	**7440-41-7**	**0.0209**		**0.00282**
Cadmium	7440-43-9	0.00773	U	0.0653
Chromium	**7440-47-3**	**2.22**		**1.95**
Cobalt	**7440-48-4**	**0.358**		**0.0384**
Copper	**7440-50-8**	**39.4**		**2.32**
Lead	**7439-92-1**	**0.278**		**0.188**
Manganese	**7439-96-5**	**9.14**		**1.66**
Molybdenum	**7439-98-7**	**1.91**		**0.316**
Nickel	**7440-02-0**	**1.17**		**0.574**
Selenium	**7782-49-2**	**0.111**		**0.00789**
Thallium	**7440-28-0**	**6.75E-4**		**5.19E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0466**
Zinc	7440-66-6	7.60	U	67.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-080924-HM
Matrix: Air
Lab ID: 4082761-08
Sample Volume: 1792.703 m³
Filter ID:
Sampled: 08/09/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 05:45

Comments: Q8525728 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.399**		**0.00850**
Barium	**7440-39-3**	**3.56**		**0.971**
Beryllium	**7440-41-7**	**0.00940**		**0.00290**
Cadmium	7440-43-9	0.0186	U	0.0673
Chromium	**7440-47-3**	**2.28**		**2.01**
Cobalt	**7440-48-4**	**0.341**		**0.0396**
Copper	**7440-50-8**	**43.9**		**2.39**
Lead	**7439-92-1**	**0.689**		**0.194**
Manganese	**7439-96-5**	**10.7**		**1.72**
Molybdenum	**7439-98-7**	**2.02**		**0.326**
Nickel	**7440-02-0**	**1.14**		**0.592**
Selenium	**7782-49-2**	**0.119**		**0.00813**
Thallium	**7440-28-0**	**6.54E-4**		**5.35E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0480**
Zinc	7440-66-6	9.91	U	69.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-080924-HM
Matrix: Air
Lab ID: 4082761-09
Sample Volume: 1865.755 m³
Filter ID:
Sampled: 08/09/24 00:00
Received: 08/19/24 10:39
Analysis Date: 08/22/24 05:59

Comments: Q8525724 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	FB-01, SL	**0.0337**
Arsenic	**7440-38-2**	**0.0142**	FB-01	**0.00817**
Barium	**7440-39-3**	**1.30**	FB-01	**0.933**
Beryllium	7440-41-7	4.95E-4	U	0.00279
Cadmium	7440-43-9	0.00555	U	0.0646
Chromium	7440-47-3	0.948	U	1.93
Cobalt	7440-48-4	0.0204	U	0.0380
Copper	**7440-50-8**	**3.80**	FB-01	**2.29**
Lead	7439-92-1	0.0615	U	0.187
Manganese	7439-96-5	0.454	U	1.65
Molybdenum	**7439-98-7**	**0.338**	FB-01	**0.313**
Nickel	7440-02-0	0.448	U	0.569
Selenium	7782-49-2	0.00119	U	0.00781
Thallium	7440-28-0	1.42E-4	U	5.14E-4
Vanadium	**7440-62-2**	**0.0462**	FB-01	**0.0461**
Zinc	7440-66-6	11.0	U	67.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-080924-HM
Matrix: Air
Lab ID: 4082761-10
Sample Volume: 1865.755 m³
Filter ID:
Sampled: 08/09/24 00:00
Received: 08/19/24 10:39
Analysis Date: 08/22/24 06:12

Comments: Q9539676 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0104	SL, U	0.0337
Arsenic	7440-38-2	0.00685	U	0.00817
Barium	7440-39-3	0.782	U	0.933
Beryllium	7440-41-7	6.70E-4	U	0.00279
Cadmium	7440-43-9	0.00245	U	0.0646
Chromium	7440-47-3	1.39	U	1.93
Cobalt	7440-48-4	0.0242	U	0.0380
Copper	7440-50-8	0.559	U	2.29
Lead	7439-92-1	0.0532	U	0.187
Manganese	7439-96-5	0.281	U	1.65
Molybdenum	7439-98-7	0.256	U	0.313
Nickel	7440-02-0	0.249	U	0.569
Selenium	7782-49-2	7.44E-4	U	0.00781
Thallium	7440-28-0	7.20E-5	U	5.14E-4
Vanadium	7440-62-2	0.0419	U	0.0461
Zinc	7440-66-6	3.36	U	67.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081024-HM
Matrix: Air
Lab ID: 4082761-11
Sample Volume: 1913.519 m³
Filter ID:
Sampled: 08/10/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 07:20

Comments: Q9539675 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0465**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.591**		**0.00797**
Barium	**7440-39-3**	**3.05**		**0.910**
Beryllium	**7440-41-7**	**0.0107**		**0.00272**
Cadmium	7440-43-9	0.0559	U	0.0630
Chromium	**7440-47-3**	**3.05**		**1.88**
Cobalt	**7440-48-4**	**0.413**		**0.0371**
Copper	**7440-50-8**	**172**		**2.24**
Lead	**7439-92-1**	**0.238**		**0.182**
Manganese	**7439-96-5**	**11.0**		**1.61**
Molybdenum	**7439-98-7**	**10.2**		**0.305**
Nickel	**7440-02-0**	**1.32**		**0.554**
Selenium	**7782-49-2**	**0.137**		**0.00762**
Thallium	**7440-28-0**	**0.00101**		**5.01E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0450**
Zinc	7440-66-6	6.44	U	65.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081024-HM
Matrix: Air
Lab ID: 4082761-12
Sample Volume: 1923.279 m³
Filter ID:
Sampled: 08/10/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 07:33

Comments: Q9539674 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.272**		**0.00793**
Barium	**7440-39-3**	**3.83**		**0.905**
Beryllium	**7440-41-7**	**0.0108**		**0.00271**
Cadmium	7440-43-9	0.0149	U	0.0627
Chromium	**7440-47-3**	**2.51**		**1.87**
Cobalt	**7440-48-4**	**0.297**		**0.0369**
Copper	**7440-50-8**	**62.0**		**2.22**
Lead	**7439-92-1**	**0.687**		**0.181**
Manganese	**7439-96-5**	**9.68**		**1.60**
Molybdenum	**7439-98-7**	**3.57**		**0.304**
Nickel	**7440-02-0**	**0.905**		**0.552**
Selenium	**7782-49-2**	**0.161**		**0.00758**
Thallium	**7440-28-0**	**9.60E-4**		**4.98E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0448**
Zinc	7440-66-6	9.71	U	65.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081024-HM
Matrix: Air
Lab ID: 4082761-13
Sample Volume: 2037.005 m³
Filter ID:
Sampled: 08/10/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 07:48

Comments: Q9539671 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0369**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.156**		**0.00748**
Barium	**7440-39-3**	**2.59**		**0.855**
Beryllium	**7440-41-7**	**0.0235**		**0.00256**
Cadmium	7440-43-9	0.00956	U	0.0592
Chromium	**7440-47-3**	**2.60**		**1.77**
Cobalt	**7440-48-4**	**0.363**		**0.0348**
Copper	**7440-50-8**	**53.8**		**2.10**
Lead	**7439-92-1**	**0.261**		**0.171**
Manganese	**7439-96-5**	**9.39**		**1.51**
Molybdenum	**7439-98-7**	**4.05**		**0.287**
Nickel	**7440-02-0**	**0.973**		**0.521**
Selenium	**7782-49-2**	**0.142**		**0.00716**
Thallium	**7440-28-0**	**9.78E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0423**
Zinc	7440-66-6	6.58	U	61.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081024-HM
Matrix: Air
Lab ID: 4082761-14
Sample Volume: 1828.048 m³
Filter ID:
Sampled: 08/10/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 08:01

Comments: Q9539670 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.358**		**0.00834**
Barium	**7440-39-3**	**3.38**		**0.952**
Beryllium	**7440-41-7**	**0.00955**		**0.00285**
Cadmium	7440-43-9	0.0346	U	0.0660
Chromium	**7440-47-3**	**2.83**		**1.97**
Cobalt	**7440-48-4**	**0.344**		**0.0388**
Copper	**7440-50-8**	**36.7**		**2.34**
Lead	**7439-92-1**	**0.696**		**0.190**
Manganese	**7439-96-5**	**11.5**		**1.68**
Molybdenum	**7439-98-7**	**2.37**		**0.320**
Nickel	**7440-02-0**	**1.12**		**0.580**
Selenium	**7782-49-2**	**0.160**		**0.00797**
Thallium	**7440-28-0**	**9.44E-4**		**5.24E-4**
Vanadium	**7440-62-2**	**0.879**		**0.0471**
Zinc	7440-66-6	13.0	U	68.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081124-HM
Matrix: Air
Lab ID: 4082761-15
Sample Volume: 1884.919 m³
Filter ID:
Sampled: 08/11/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 08:15

Comments: Q9539669 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0340**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.315**		**0.00809**
Barium	**7440-39-3**	**2.33**		**0.924**
Beryllium	**7440-41-7**	**0.00630**		**0.00276**
Cadmium	7440-43-9	0.0136	U	0.0640
Chromium	**7440-47-3**	**2.26**		**1.91**
Cobalt	**7440-48-4**	**0.243**		**0.0376**
Copper	**7440-50-8**	**211**		**2.27**
Lead	**7439-92-1**	**0.237**		**0.185**
Manganese	**7439-96-5**	**6.30**		**1.63**
Molybdenum	**7439-98-7**	**14.1**		**0.310**
Nickel	**7440-02-0**	**0.798**		**0.563**
Selenium	**7782-49-2**	**0.173**		**0.00773**
Thallium	**7440-28-0**	**0.00137**		**5.08E-4**
Vanadium	**7440-62-2**	**0.872**		**0.0457**
Zinc	7440-66-6	7.08	U	66.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081124-HM
Matrix: Air
Lab ID: 4082761-16
Sample Volume: 1952.118 m³
Filter ID:
Sampled: 08/11/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 08:43

Comments: Q9539668 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.138**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.312**		**0.00781**
Barium	**7440-39-3**	**3.85**		**0.892**
Beryllium	**7440-41-7**	**0.0108**		**0.00267**
Cadmium	7440-43-9	0.0194	U	0.0618
Chromium	**7440-47-3**	**2.58**		**1.84**
Cobalt	**7440-48-4**	**0.288**		**0.0363**
Copper	**7440-50-8**	**50.7**		**2.19**
Lead	**7439-92-1**	**0.928**		**0.178**
Manganese	**7439-96-5**	**8.98**		**1.58**
Molybdenum	**7439-98-7**	**4.21**		**0.299**
Nickel	**7440-02-0**	**1.14**		**0.543**
Selenium	**7782-49-2**	**0.229**		**0.00747**
Thallium	**7440-28-0**	**0.00173**		**4.91E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0441**
Zinc	7440-66-6	11.4	U	64.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081124-HM
Matrix: Air
Lab ID: 4082761-17
Sample Volume: 2006.763 m³
Filter ID:
Sampled: 08/11/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 08:58

Comments: Q9539667 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0298	SL, U	0.0313
Arsenic	**7440-38-2**	**0.118**		**0.00760**
Barium	**7440-39-3**	**2.19**		**0.868**
Beryllium	**7440-41-7**	**0.0132**		**0.00259**
Cadmium	7440-43-9	0.0123	U	0.0601
Chromium	**7440-47-3**	**2.13**		**1.79**
Cobalt	**7440-48-4**	**0.254**		**0.0353**
Copper	**7440-50-8**	**44.1**		**2.13**
Lead	**7439-92-1**	**0.315**		**0.174**
Manganese	**7439-96-5**	**6.49**		**1.53**
Molybdenum	**7439-98-7**	**3.97**		**0.291**
Nickel	**7440-02-0**	**0.828**		**0.529**
Selenium	**7782-49-2**	**0.149**		**0.00726**
Thallium	**7440-28-0**	**0.00117**		**4.78E-4**
Vanadium	**7440-62-2**	**0.793**		**0.0429**
Zinc	7440-66-6	8.18	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081124-HM
Matrix: Air
Lab ID: 4082761-18
Sample Volume: 1744.739 m³
Filter ID:
Sampled: 08/11/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 09:12

Comments: Q8525730 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0360**
Arsenic	**7440-38-2**	**0.238**		**0.00874**
Barium	**7440-39-3**	**3.12**		**0.998**
Beryllium	**7440-41-7**	**0.00677**		**0.00298**
Cadmium	7440-43-9	0.0133	U	0.0691
Chromium	7440-47-3	1.80	U	2.06
Cobalt	**7440-48-4**	**0.214**		**0.0407**
Copper	**7440-50-8**	**30.9**		**2.45**
Lead	**7439-92-1**	**0.593**		**0.200**
Manganese	**7439-96-5**	**7.16**		**1.76**
Molybdenum	**7439-98-7**	**2.19**		**0.335**
Nickel	**7440-02-0**	**1.05**		**0.608**
Selenium	**7782-49-2**	**0.203**		**0.00836**
Thallium	**7440-28-0**	**0.00145**		**5.49E-4**
Vanadium	**7440-62-2**	**0.970**		**0.0493**
Zinc	7440-66-6	9.14	U	71.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081124-HM
Matrix: Air
Lab ID: 4082761-19
Sample Volume: 1884.919 m³
Filter ID:
Sampled: 08/11/24 00:00
Received: 08/19/24 10:39
Analysis Date: 08/22/24 09:26

Comments: Q8525739 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0250	SL, U	0.0333
Arsenic	7440-38-2	0.00608	U	0.00809
Barium	**7440-39-3**	**1.35**	FB-01	**0.924**
Beryllium	7440-41-7	1.66E-4	U	0.00276
Cadmium	7440-43-9	0.00149	U	0.0640
Chromium	7440-47-3	0.844	U	1.91
Cobalt	7440-48-4	0.0130	U	0.0376
Copper	7440-50-8	1.86	U	2.27
Lead	7439-92-1	0.0331	U	0.185
Manganese	7439-96-5	0.284	U	1.63
Molybdenum	7439-98-7	0.212	U	0.310
Nickel	7440-02-0	0.391	U	0.563
Selenium	7782-49-2	-9.37E-4	U	0.00773
Thallium	7440-28-0	7.42E-5	U	5.08E-4
Vanadium	7440-62-2	0.0415	U	0.0457
Zinc	7440-66-6	3.13	U	66.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081224-HM
Matrix: Air
Lab ID: 4082761-20
Sample Volume: 1934.488 m³
Filter ID:
Sampled: 08/12/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 09:40

Comments: Q8525723 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0759**	SL	**0.0325**
Arsenic	**7440-38-2**	**2.03**		**0.00788**
Barium	**7440-39-3**	**19.0**		**0.900**
Beryllium	**7440-41-7**	**0.0790**		**0.00269**
Cadmium	7440-43-9	0.0516	U	0.0623
Chromium	**7440-47-3**	**7.57**		**1.86**
Cobalt	**7440-48-4**	**1.80**		**0.0367**
Copper	**7440-50-8**	**316**		**2.21**
Lead	**7439-92-1**	**0.930**		**0.180**
Manganese	**7439-96-5**	**63.8**		**1.59**
Molybdenum	**7439-98-7**	**21.4**		**0.302**
Nickel	**7440-02-0**	**3.54**		**0.548**
Selenium	**7782-49-2**	**0.431**		**0.00754**
Thallium	**7440-28-0**	**0.00535**		**4.95E-4**
Vanadium	**7440-62-2**	**7.52**		**0.0445**
Zinc	7440-66-6	16.2	U	64.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081224-HM
Matrix: Air
Lab ID: 4082761-21
Sample Volume: 1981.035 m³
Filter ID:
Sampled: 08/12/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/21/24 21:37

Comments: Q8525740 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.355**		**0.00770**
Barium	**7440-39-3**	**3.31**		**0.879**
Beryllium	**7440-41-7**	**0.00779**		**0.00263**
Cadmium	7440-43-9	0.0184	U	0.0609
Chromium	7440-47-3	1.51	U	1.82
Cobalt	**7440-48-4**	**0.203**		**0.0358**
Copper	**7440-50-8**	**43.8**	QM-07	**2.16**
Lead	**7439-92-1**	**0.554**		**0.176**
Manganese	**7439-96-5**	**6.77**		**1.55**
Molybdenum	**7439-98-7**	**4.27**	QM-07	**0.295**
Nickel	**7440-02-0**	**0.895**		**0.535**
Selenium	**7782-49-2**	**0.212**		**0.00736**
Thallium	**7440-28-0**	**0.00135**		**4.84E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0434**
Zinc	7440-66-6	11.1	U	63.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081224-HM
Matrix: Air
Lab ID: 4082761-22
Sample Volume: 1958.291 m³
Filter ID:
Sampled: 08/12/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 10:50

Comments: Q8525737 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0746**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.155**		**0.00778**
Barium	**7440-39-3**	**3.45**		**0.889**
Beryllium	**7440-41-7**	**0.0187**		**0.00266**
Cadmium	7440-43-9	0.0146	U	0.0616
Chromium	**7440-47-3**	**2.13**		**1.84**
Cobalt	**7440-48-4**	**0.334**		**0.0362**
Copper	**7440-50-8**	**68.7**		**2.19**
Lead	**7439-92-1**	**0.657**		**0.178**
Manganese	**7439-96-5**	**8.66**		**1.57**
Molybdenum	**7439-98-7**	**5.04**		**0.298**
Nickel	**7440-02-0**	**2.09**		**0.542**
Selenium	**7782-49-2**	**0.180**		**0.00744**
Thallium	**7440-28-0**	**0.00127**		**4.89E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0440**
Zinc	7440-66-6	13.6	U	63.8

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081224-HM
Matrix: Air
Lab ID: 4082761-23
Sample Volume: 1757.923 m³
Filter ID:
Sampled: 08/12/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 11:06

Comments: Q8525736 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0965**	SL	**0.0357**
Arsenic	**7440-38-2**	**0.183**		**0.00867**
Barium	**7440-39-3**	**2.82**		**0.990**
Beryllium	**7440-41-7**	**0.00589**		**0.00296**
Cadmium	7440-43-9	0.0306	U	0.0686
Chromium	7440-47-3	1.64	U	2.05
Cobalt	**7440-48-4**	**0.177**		**0.0404**
Copper	**7440-50-8**	**30.7**		**2.43**
Lead	**7439-92-1**	**0.442**		**0.198**
Manganese	**7439-96-5**	**5.98**		**1.75**
Molybdenum	**7439-98-7**	**1.78**		**0.332**
Nickel	**7440-02-0**	**0.983**		**0.603**
Selenium	**7782-49-2**	**0.148**		**0.00829**
Thallium	**7440-28-0**	**0.00103**		**5.45E-4**
Vanadium	**7440-62-2**	**0.786**		**0.0490**
Zinc	7440-66-6	8.53	U	71.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081324-HM
Matrix: Air
Lab ID: 4082761-24
Sample Volume: 1962.037 m³
Filter ID:
Sampled: 08/13/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 11:20

Comments: Q8525735 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0320**
Arsenic	**7440-38-2**	**2.84**		**0.00777**
Barium	**7440-39-3**	**22.0**		**0.887**
Beryllium	**7440-41-7**	**0.0452**		**0.00265**
Cadmium	7440-43-9	0.0472	U	0.0614
Chromium	**7440-47-3**	**9.20**		**1.83**
Cobalt	**7440-48-4**	**1.94**		**0.0362**
Copper	**7440-50-8**	**170**		**2.18**
Lead	**7439-92-1**	**0.627**		**0.177**
Manganese	**7439-96-5**	**47.4**		**1.57**
Molybdenum	**7439-98-7**	**13.0**		**0.298**
Nickel	**7440-02-0**	**4.97**		**0.541**
Selenium	**7782-49-2**	**0.333**		**0.00743**
Thallium	**7440-28-0**	**0.00332**		**4.88E-4**
Vanadium	**7440-62-2**	**5.96**		**0.0439**
Zinc	7440-66-6	15.4	U	63.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081324-HM
Matrix: Air
Lab ID: 4082761-25
Sample Volume: 1985.152 m³
Filter ID:
Sampled: 08/13/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 11:35

Comments: Q8525734 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.589**		**0.00768**
Barium	**7440-39-3**	**8.23**		**0.877**
Beryllium	**7440-41-7**	**0.0306**		**0.00262**
Cadmium	**7440-43-9**	**0.0875**		**0.0607**
Chromium	**7440-47-3**	**5.07**		**1.81**
Cobalt	**7440-48-4**	**1.16**		**0.0357**
Copper	**7440-50-8**	**40.4**		**2.16**
Lead	**7439-92-1**	**1.11**		**0.175**
Manganese	**7439-96-5**	**28.6**		**1.55**
Molybdenum	**7439-98-7**	**2.51**		**0.294**
Nickel	**7440-02-0**	**3.23**		**0.534**
Selenium	**7782-49-2**	**0.287**		**0.00734**
Thallium	**7440-28-0**	**0.00270**		**4.83E-4**
Vanadium	**7440-62-2**	**3.63**		**0.0434**
Zinc	7440-66-6	17.0	U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081324-HM
Matrix: Air
Lab ID: 4082761-26
Sample Volume: 2054.202 m³
Filter ID:
Sampled: 08/13/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 11:50

Comments: Q8525733 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0657**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.213**		**0.00742**
Barium	**7440-39-3**	**3.70**		**0.847**
Beryllium	**7440-41-7**	**0.0278**		**0.00253**
Cadmium	7440-43-9	0.0240	U	0.0587
Chromium	**7440-47-3**	**3.04**		**1.75**
Cobalt	**7440-48-4**	**0.526**		**0.0345**
Copper	**7440-50-8**	**50.5**		**2.08**
Lead	**7439-92-1**	**0.318**		**0.169**
Manganese	**7439-96-5**	**13.2**		**1.50**
Molybdenum	**7439-98-7**	**3.78**		**0.284**
Nickel	**7440-02-0**	**1.81**		**0.516**
Selenium	**7782-49-2**	**0.204**		**0.00710**
Thallium	**7440-28-0**	**0.00179**		**4.67E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0419**
Zinc	7440-66-6	10.2	U	60.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081324-HM
Matrix: Air
Lab ID: 4082761-27
Sample Volume: 1587.694 m³
Filter ID:
Sampled: 08/13/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 12:04

Comments: Q8525732 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0396**
Arsenic	**7440-38-2**	**0.460**		**0.00960**
Barium	**7440-39-3**	**4.58**		**1.10**
Beryllium	**7440-41-7**	**0.0137**		**0.00328**
Cadmium	7440-43-9	0.0234	U	0.0759
Chromium	**7440-47-3**	**5.40**		**2.26**
Cobalt	**7440-48-4**	**0.530**		**0.0447**
Copper	**7440-50-8**	**41.4**		**2.70**
Lead	**7439-92-1**	**0.644**		**0.219**
Manganese	**7439-96-5**	**15.4**		**1.94**
Molybdenum	**7439-98-7**	**2.39**		**0.368**
Nickel	**7440-02-0**	**3.11**		**0.668**
Selenium	**7782-49-2**	**0.210**		**0.00918**
Thallium	**7440-28-0**	**0.00197**		**6.04E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0542**
Zinc	7440-66-6	15.6	U	78.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081324-HM
Matrix: Air
Lab ID: 4082761-28
Sample Volume: 1962.037 m³
Filter ID:
Sampled: 08/13/24 00:00
Received: 08/19/24 10:39
Analysis Date: 08/22/24 12:33

Comments: Q9553181 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0155	SL, U	0.0320
Arsenic	7440-38-2	0.00444	U	0.00777
Barium	7440-39-3	0.392	U	0.887
Beryllium	7440-41-7	4.81E-4	U	0.00265
Cadmium	7440-43-9	0.00113	U	0.0614
Chromium	7440-47-3	1.03	U	1.83
Cobalt	7440-48-4	0.0187	U	0.0362
Copper	7440-50-8	0.408	U	2.18
Lead	7439-92-1	0.0242	U	0.177
Manganese	7439-96-5	0.184	U	1.57
Molybdenum	7439-98-7	0.157	U	0.298
Nickel	7440-02-0	0.237	U	0.541
Selenium	7782-49-2	0.00322	U	0.00743
Thallium	7440-28-0	7.89E-5	U	4.88E-4
Vanadium	7440-62-2	0.0221	U	0.0439
Zinc	7440-66-6	3.11	U	63.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081424-HM
Matrix: Air
Lab ID: 4082761-29
Sample Volume: 1892.802 m³
Filter ID:
Sampled: 08/14/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 12:46

Comments: Q9553184 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0878**	SL	**0.0332**
Arsenic	**7440-38-2**	**2.10**		**0.00805**
Barium	**7440-39-3**	**11.7**		**0.920**
Beryllium	**7440-41-7**	**0.0528**		**0.00275**
Cadmium	**7440-43-9**	**0.0969**		**0.0637**
Chromium	**7440-47-3**	**9.93**		**1.90**
Cobalt	**7440-48-4**	**2.35**		**0.0375**
Copper	**7440-50-8**	**189**		**2.26**
Lead	**7439-92-1**	**0.778**		**0.184**
Manganese	**7439-96-5**	**54.6**		**1.62**
Molybdenum	**7439-98-7**	**12.3**		**0.309**
Nickel	**7440-02-0**	**5.28**		**0.560**
Selenium	**7782-49-2**	**0.372**		**0.00770**
Thallium	**7440-28-0**	**0.00331**		**5.06E-4**
Vanadium	**7440-62-2**	**6.78**		**0.0455**
Zinc	7440-66-6	12.1	U	66.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081424-HM
Matrix: Air
Lab ID: 4082761-31
Sample Volume: 1977.584 m³
Filter ID:
Sampled: 08/14/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 13:05

Comments: Q9553182 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0590**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.210**		**0.00771**
Barium	**7440-39-3**	**3.32**		**0.880**
Beryllium	**7440-41-7**	**0.0313**		**0.00263**
Cadmium	7440-43-9	0.0105	U	0.0610
Chromium	**7440-47-3**	**2.90**		**1.82**
Cobalt	**7440-48-4**	**0.501**		**0.0359**
Copper	**7440-50-8**	**37.7**		**2.16**
Lead	**7439-92-1**	**0.549**		**0.176**
Manganese	**7439-96-5**	**12.0**		**1.55**
Molybdenum	**7439-98-7**	**3.06**		**0.295**
Nickel	**7440-02-0**	**1.33**		**0.536**
Selenium	**7782-49-2**	**0.185**		**0.00737**
Thallium	**7440-28-0**	**0.00159**		**4.85E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0435**
Zinc	7440-66-6	10.5	U	63.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081424-HM
Matrix: Air
Lab ID: 4082761-32
Sample Volume: 1731.473 m³
Filter ID:
Sampled: 08/14/24 23:59
Received: 08/19/24 10:39
Analysis Date: 08/22/24 14:13

Comments: Q9553180 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0780**	SL	**0.0363**
Arsenic	**7440-38-2**	**0.397**		**0.00880**
Barium	**7440-39-3**	**2.92**		**1.01**
Beryllium	**7440-41-7**	**0.0132**		**0.00301**
Cadmium	7440-43-9	0.0120	U	0.0696
Chromium	**7440-47-3**	**2.73**		**2.08**
Cobalt	**7440-48-4**	**0.419**		**0.0410**
Copper	**7440-50-8**	**36.4**		**2.47**
Lead	**7439-92-1**	**0.470**		**0.201**
Manganese	**7439-96-5**	**12.1**		**1.78**
Molybdenum	**7439-98-7**	**2.28**		**0.337**
Nickel	**7440-02-0**	**1.24**		**0.613**
Selenium	**7782-49-2**	**0.167**		**0.00842**
Thallium	**7440-28-0**	**0.00161**		**5.53E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0497**
Zinc	7440-66-6	9.98	U	72.2

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REPORTED: 08/28/24 14:58
SUBMITTED: 08/19/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-081424-HM **Lab ID:** 4082761-33 **Sampled:** 08/14/24 00:00
Matrix: Air **Sample Volume:** 1627 m³ **Received:** 08/19/24 10:39
Filter ID: **Analysis Date:** 08/22/24 14:27

Comments: Q9553179 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0140	U	0.0386
Arsenic	7440-38-2	0.00844	U	0.00937
Barium	7440-39-3	0.530	U	1.07
Beryllium	7440-41-7	6.91E-4	U	0.00320
Cadmium	7440-43-9	0.00115	U	0.0741
Chromium	7440-47-3	1.27	U	2.21
Cobalt	7440-48-4	0.0274	U	0.0436
Copper	7440-50-8	0.521	U	2.63
Lead	7439-92-1	0.0320	U	0.214
Manganese	7439-96-5	0.328	U	1.89
Molybdenum	7439-98-7	0.227	U	0.359
Nickel	7440-02-0	0.305	U	0.652
Selenium	7782-49-2	0.00227	U	0.00896
Thallium	7440-28-0	1.75E-4	U	5.89E-4
Vanadium	7440-62-2	0.0356	U	0.0529
Zinc	7440-66-6	4.71	U	76.8

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Blank (2408051-CCB1)				Prepared & Analyzed: 08/21/24						
Antimony	0.512		ng/l							
Arsenic	-5.89		ng/l							U
Barium	-0.965		ng/l							U
Beryllium	-0.695		ng/l							U
Cadmium	-0.121		ng/l							U
Chromium	-1.59		ng/l							U
Cobalt	-0.145		ng/l							U
Copper	89.5		ng/l							
Lead	8.30		ng/l							
Manganese	-1.23		ng/l							U
Molybdenum	21.1		ng/l							
Nickel	-4.62		ng/l							U
Selenium	-5.23		ng/l							U
Thallium	1.24		ng/l							
Vanadium	-16.1		ng/l							U
Zinc	-46.3		ng/l							U
Calibration Blank (2408051-CCB2)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.00392		ng/l							
Arsenic	-5.39		ng/l							U
Barium	0.925		ng/l							
Beryllium	-1.28		ng/l							U
Cadmium	-0.174		ng/l							U
Chromium	-1.87		ng/l							U
Cobalt	-0.404		ng/l							U
Copper	83.7		ng/l							
Lead	1.32		ng/l							
Manganese	-1.30		ng/l							U
Molybdenum	5.26		ng/l							
Nickel	-3.47		ng/l							U
Selenium	-1.14		ng/l							U
Thallium	1.10		ng/l							
Vanadium	-18.0		ng/l							U
Zinc	-32.9		ng/l							U
Calibration Blank (2408051-CCB3)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.159		ng/l							
Arsenic	-4.42		ng/l							U
Barium	-0.584		ng/l							U
Beryllium	-1.30		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Blank (2408051-CCB3) Contin				Prepared: 08/21/24 Analyzed: 08/22/24						
Cadmium	0.103		ng/l							
Chromium	-1.82		ng/l							U
Cobalt	-0.134		ng/l							U
Copper	43.0		ng/l							
Lead	1.56		ng/l							
Manganese	-2.00		ng/l							U
Molybdenum	4.38		ng/l							
Nickel	-4.96		ng/l							U
Selenium	2.84		ng/l							
Thallium	1.26		ng/l							
Vanadium	-21.3		ng/l							U
Zinc	5.30		ng/l							
Calibration Blank (2408051-CCB4)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.319		ng/l							
Arsenic	-1.94		ng/l							U
Barium	-0.965		ng/l							U
Beryllium	-1.72		ng/l							U
Cadmium	0.139		ng/l							
Chromium	-0.908		ng/l							U
Cobalt	-0.342		ng/l							U
Copper	36.2		ng/l							
Lead	1.20		ng/l							
Manganese	-3.02		ng/l							U
Molybdenum	4.83		ng/l							
Nickel	-4.95		ng/l							U
Selenium	-5.97		ng/l							U
Thallium	0.874		ng/l							
Vanadium	-22.1		ng/l							U
Zinc	-53.8		ng/l							U
Calibration Blank (2408051-CCB5)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.324		ng/l							
Arsenic	2.94		ng/l							
Barium	0.639		ng/l							
Beryllium	-1.84		ng/l							U
Cadmium	-0.121		ng/l							U
Chromium	-0.213		ng/l							U
Cobalt	-0.209		ng/l							U
Copper	36.4		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Blank (2408051-CCB5) Contin				Prepared: 08/21/24 Analyzed: 08/22/24						
Lead	1.19		ng/l							
Manganese	-1.86		ng/l							U
Molybdenum	6.16		ng/l							
Nickel	-6.27		ng/l							U
Selenium	-13.7		ng/l							U
Thallium	0.909		ng/l							
Vanadium	-24.9		ng/l							U
Zinc	-22.8		ng/l							U
Calibration Blank (2408051-CCB6)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.331		ng/l							
Arsenic	-2.80		ng/l							U
Barium	2.51		ng/l							
Beryllium	-2.02		ng/l							U
Cadmium	0.0232		ng/l							
Chromium	-1.18		ng/l							U
Cobalt	-0.201		ng/l							U
Copper	28.0		ng/l							
Lead	0.998		ng/l							
Manganese	-2.39		ng/l							U
Molybdenum	6.46		ng/l							
Nickel	-4.91		ng/l							U
Selenium	-8.34		ng/l							U
Thallium	1.07		ng/l							
Vanadium	-24.5		ng/l							U
Zinc	-51.3		ng/l							U
Calibration Blank (2408051-CCB7)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.340		ng/l							
Arsenic	-2.10		ng/l							U
Barium	2.33		ng/l							
Beryllium	-1.87		ng/l							U
Cadmium	0.160		ng/l							
Chromium	0.985		ng/l							
Cobalt	0.346		ng/l							
Copper	43.0		ng/l							
Lead	2.84		ng/l							
Manganese	2.93		ng/l							
Molybdenum	7.25		ng/l							
Nickel	-4.76		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Blank (2408051-CCB7) Contin				Prepared: 08/21/24 Analyzed: 08/22/24						
Selenium	0.489		ng/l							
Thallium	1.20		ng/l							
Vanadium	-27.5		ng/l							U
Zinc	-56.1		ng/l							U
Calibration Check (2408051-CCV1)				Prepared & Analyzed: 08/21/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	49700		ng/l	50000		99.5	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	485000		ng/l	500000		97.0	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2408051-CCV2)				Prepared & Analyzed: 08/21/24						
Antimony	19300		ng/l	20000		96.3	90-110			
Arsenic	19000		ng/l	20000		95.0	90-110			
Barium	191000		ng/l	200000		95.5	90-110			
Beryllium	4970		ng/l	5000.0		99.5	90-110			
Cadmium	19300		ng/l	20000		96.5	90-110			
Chromium	231000		ng/l	240000		96.1	90-110			
Cobalt	46900		ng/l	50000		93.8	90-110			
Copper	1.90E6		ng/l	2.0000E6		95.0	90-110			
Lead	190000		ng/l	200000		95.1	90-110			
Manganese	463000		ng/l	500000		92.6	90-110			
Molybdenum	46900		ng/l	50000		93.9	90-110			
Nickel	113000		ng/l	120000		94.0	90-110			
Selenium	19400		ng/l	20000		97.0	90-110			
Thallium	459		ng/l	500.00		91.7	90-110			
Vanadium	19200		ng/l	20000		95.8	90-110			
Zinc	480000		ng/l	500000		96.1	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Check (2408051-CCV3)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19700		ng/l	20000		98.4	90-110			
Barium	198000		ng/l	200000		99.1	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	48800		ng/l	50000		97.5	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.8	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	481000		ng/l	500000		96.3	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.1	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	502000		ng/l	500000		100	90-110			
Calibration Check (2408051-CCV4)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	49000		ng/l	50000		97.9	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	481000		ng/l	500000		96.2	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	118000		ng/l	120000		98.0	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2408051-CCV5)				Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Check (2408051-CCV5) Contin					Prepared: 08/21/24 Analyzed: 08/22/24					
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	49600		ng/l	50000		99.1	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	484000		ng/l	500000		96.8	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	119000		ng/l	120000		99.2	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	481		ng/l	500.00		96.3	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2408051-CCV6)					Prepared: 08/21/24 Analyzed: 08/22/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	49400		ng/l	50000		98.9	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2408051-CCV7)					Prepared: 08/21/24 Analyzed: 08/22/24					
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			

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SUBMITTED: 08/19/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Calibration Check (2408051-CCV7) Contin					Prepared: 08/21/24 Analyzed: 08/22/24					
Lead	201000		ng/l	200000		100	90-110			
Manganese	487000		ng/l	500000		97.5	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	509000		ng/l	500000		102	90-110			
High Cal Check (2408051-HCV1)					Prepared & Analyzed: 08/21/24					
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	39700		ng/l	40000		99.3	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	9980		ng/l	10000		99.8	95-105			
Cadmium	39700		ng/l	40000		99.2	95-105			
Chromium	477000		ng/l	480000		99.4	95-105			
Cobalt	98300		ng/l	100000		98.3	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.1	95-105			
Lead	400000		ng/l	400000		99.9	95-105			
Manganese	988000		ng/l	1.0000E6		98.8	95-105			
Molybdenum	98400		ng/l	100000		98.4	95-105			
Nickel	235000		ng/l	240000		97.7	95-105			
Selenium	40500		ng/l	40000		101	95-105			
Thallium	999		ng/l	1000.0		99.9	95-105			
Vanadium	40100		ng/l	40000		100	95-105			
Zinc	999000		ng/l	1.0000E6		99.9	95-105			
Initial Cal Blank (2408051-ICB1)					Prepared & Analyzed: 08/21/24					
Antimony	0.274		ng/l							
Arsenic	-3.20		ng/l							U
Barium	-0.223		ng/l							U
Beryllium	-0.680		ng/l							U
Cadmium	-0.271		ng/l							U
Chromium	0.467		ng/l							
Cobalt	-0.340		ng/l							U
Copper	93.4		ng/l							
Lead	4.96		ng/l							
Manganese	3.40		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-2.37		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Initial Cal Blank (2408051-ICB1) Continu				Prepared & Analyzed: 08/21/24						
Selenium	-4.81		ng/l							U
Thallium	1.01		ng/l							
Vanadium	-6.28		ng/l							U
Zinc	-34.6		ng/l							U
Initial Cal Check (2408051-ICV1)				Prepared & Analyzed: 08/21/24						
Antimony	19300		ng/l	20000		96.4	90-110			
Arsenic	19100		ng/l	20000		95.6	90-110			
Barium	192000		ng/l	200000		95.9	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	235000		ng/l	240000		97.9	90-110			
Cobalt	46600		ng/l	50000		93.2	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	196000		ng/l	200000		97.9	90-110			
Manganese	481000		ng/l	500000		96.2	90-110			
Molybdenum	48300		ng/l	50000		96.5	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	483		ng/l	500.00		96.6	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	491000		ng/l	500000		98.1	90-110			
Interference Check A (2408051-IFA1)				Prepared & Analyzed: 08/21/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	317000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408051 - B4H2703										
Interference Check B (2408051-IFB1)				Prepared & Analyzed: 08/21/24						
Antimony	20000		ng/l	20000		99.8	80-120			
Arsenic	20100		ng/l	20000		100	80-120			
Barium	197000		ng/l	200000		98.7	80-120			
Beryllium	4780		ng/l	5000.0		95.6	80-120			
Cadmium	19400		ng/l	20000		97.1	80-120			
Chromium	227000		ng/l	240000		94.7	80-120			
Cobalt	48100		ng/l	50000		96.3	80-120			
Copper	1.85E6		ng/l	2.0000E6		92.6	80-120			
Lead	205000		ng/l	200000		102	80-120			
Manganese	472000		ng/l	500000		94.5	80-120			
Molybdenum	364000		ng/l	350000		104	80-120			
Nickel	112000		ng/l	120000		93.4	80-120			
Selenium	19000		ng/l	20000		94.8	80-120			
Thallium	515		ng/l	500.00		103	80-120			
Vanadium	18400		ng/l	20000		92.2	80-120			
Zinc	464000		ng/l	500000		92.8	80-120			
Batch B4H2703 - ICP-MS Extraction										
Blank (B4H2703-BLK1)				Prepared & Analyzed: 08/21/24						
Antimony	-5.48E-5	0.0386	ng/m³ Air							SL, U
Arsenic	-0.00237	0.00937	ng/m³ Air							U
Barium	0.00156	1.07	ng/m³ Air							U
Beryllium	-3.86E-4	0.00320	ng/m³ Air							U
Cadmium	-1.89E-4	0.0741	ng/m³ Air							U
Chromium	7.43E-4	2.21	ng/m³ Air							U
Cobalt	-3.34E-4	0.0436	ng/m³ Air							U
Copper	0.0280	2.63	ng/m³ Air							U
Lead	-1.58E-4	0.214	ng/m³ Air							U
Manganese	-0.00243	1.89	ng/m³ Air							U
Molybdenum	0.0104	0.359	ng/m³ Air							U
Nickel	0.00143	0.652	ng/m³ Air							U
Selenium	-0.00364	0.00896	ng/m³ Air							U
Thallium	2.04E-4	5.89E-4	ng/m³ Air							U
Vanadium	-0.00505	0.0529	ng/m³ Air							U
Zinc	1.07	76.8	ng/m³ Air							U
LCS (B4H2703-BS1)				Prepared & Analyzed: 08/21/24						
Antimony	0.571	0.0386	ng/m³ Air	1.3829		41.3	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.0	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
LCS (B4H2703-BS1) Continued					Prepared & Analyzed: 08/21/24					
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		95.9	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.9	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		97.1	80-120			
Copper	28.9	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.31	1.89	ng/m³ Air	8.2975		100	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.08	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		98.9	80-120			
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.6	80-120			
Vanadium	2.86	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	91.6	76.8	ng/m³ Air	82.975		110	80-120			
LCS (B4H2703-BS2)					Prepared: 08/21/24 Analyzed: 08/22/24					
Antimony	0.543	0.0386	ng/m³ Air	1.3829		39.3	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.0	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.48	0.00320	ng/m³ Air	1.3829		107	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.8	80-120			
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.0	80-120			
Manganese	8.17	1.89	ng/m³ Air	8.2975		98.5	80-120			
Molybdenum	1.62	0.359	ng/m³ Air	1.3829		117	80-120			
Nickel	3.06	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		98.1	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.3	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	89.7	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4H2703-DUP1)		**Source: 4082761-21**			Prepared & Analyzed: 08/21/24					
Antimony	0.150	0.0317	ng/m³ Air		0.101			39.3	10	SL
Arsenic	0.398	0.00770	ng/m³ Air		0.355			11.5	10	
Barium	3.31	0.879	ng/m³ Air		3.31			0.00129	10	
Beryllium	0.00794	0.00263	ng/m³ Air		0.00779			2.01	10	
Cadmium	0.00940	0.0609	ng/m³ Air		ND				10	U
Chromium	1.70	1.82	ng/m³ Air		ND				10	U
Cobalt	0.220	0.0358	ng/m³ Air		0.203			8.06	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Duplicate (B4H2703-DUP1) Continued			**Source: 4082761-21**		Prepared & Analyzed: 08/21/24					
Copper	46.0	2.16	ng/m³ Air		43.8			4.86	10	
Lead	0.598	0.176	ng/m³ Air		0.554			7.63	10	
Manganese	7.15	1.55	ng/m³ Air		6.77			5.46	10	
Molybdenum	4.47	0.295	ng/m³ Air		4.27			4.59	10	
Nickel	1.01	0.535	ng/m³ Air		0.895			11.7	10	
Selenium	0.220	0.00736	ng/m³ Air		0.212			3.51	10	
Thallium	0.00122	4.84E-4	ng/m³ Air		0.00135			9.59	10	
Vanadium	1.15	0.0434	ng/m³ Air		1.08			6.34	10	
Zinc	9.13	63.1	ng/m³ Air		ND				10	U
Duplicate (B4H2703-DUP2)			**Source: 4082761-03**		Prepared: 08/21/24 Analyzed: 08/22/24					
Antimony	0.0481	0.0316	ng/m³ Air		0.0465			3.50	10	SL
Arsenic	0.172	0.00767	ng/m³ Air		0.158			8.53	10	
Barium	2.81	0.876	ng/m³ Air		2.95			4.66	10	
Beryllium	0.0259	0.00262	ng/m³ Air		0.0246			5.01	10	
Cadmium	0.00910	0.0606	ng/m³ Air		ND				10	U
Chromium	3.26	1.81	ng/m³ Air		2.54			24.8	10	
Cobalt	0.475	0.0357	ng/m³ Air		0.439			7.81	10	
Copper	44.9	2.15	ng/m³ Air		48.5			7.61	10	
Lead	0.244	0.175	ng/m³ Air		0.537			74.9	10	
Manganese	12.3	1.55	ng/m³ Air		11.7			4.46	10	
Molybdenum	2.29	0.294	ng/m³ Air		2.15			6.42	10	
Nickel	1.94	0.534	ng/m³ Air		1.15			51.2	10	
Selenium	0.168	0.00733	ng/m³ Air		0.150			10.9	10	
Thallium	9.19E-4	4.82E-4	ng/m³ Air		8.97E-4			2.47	10	
Vanadium	1.25	0.0433	ng/m³ Air		1.19			4.66	10	
Zinc	10.5	62.9	ng/m³ Air		ND				10	U
Duplicate (B4H2703-DUP3)			**Source: 4082761-15**		Prepared: 08/21/24 Analyzed: 08/22/24					
Antimony	0.0344	0.0333	ng/m³ Air		0.0340			1.19	10	SL
Arsenic	0.316	0.00809	ng/m³ Air		0.315			0.249	10	
Barium	2.34	0.924	ng/m³ Air		2.33			0.768	10	
Beryllium	0.00661	0.00276	ng/m³ Air		0.00630			4.75	10	
Cadmium	0.0138	0.0640	ng/m³ Air		ND				10	U
Chromium	2.26	1.91	ng/m³ Air		2.26			0.275	10	
Cobalt	0.243	0.0376	ng/m³ Air		0.243			0.265	10	
Copper	212	2.27	ng/m³ Air		211			0.271	10	
Lead	0.237	0.185	ng/m³ Air		0.237			0.0381	10	
Manganese	6.31	1.63	ng/m³ Air		6.30			0.0477	10	
Molybdenum	14.2	0.310	ng/m³ Air		14.1			0.985	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Duplicate (B4H2703-DUP3) Continued		**Source: 4082761-15**		Prepared: 08/21/24 Analyzed: 08/22/24						
Nickel	0.800	0.563	ng/m³ Air		0.798			0.211	10	
Selenium	0.171	0.00773	ng/m³ Air		0.173			0.679	10	
Thallium	0.00137	5.08E-4	ng/m³ Air		0.00137			0.361	10	
Vanadium	0.879	0.0457	ng/m³ Air		0.872			0.810	10	
Zinc	7.08	66.3	ng/m³ Air		ND				10	U
Duplicate (B4H2703-DUP4)		**Source: 4082761-27**		Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.141	0.0396	ng/m³ Air		0.142			0.660	10	SL
Arsenic	0.460	0.00960	ng/m³ Air		0.460			0.137	10	
Barium	4.52	1.10	ng/m³ Air		4.58			1.36	10	
Beryllium	0.0137	0.00328	ng/m³ Air		0.0137			0.441	10	
Cadmium	0.0233	0.0759	ng/m³ Air		ND				10	U
Chromium	5.34	2.26	ng/m³ Air		5.40			1.24	10	
Cobalt	0.524	0.0447	ng/m³ Air		0.530			1.14	10	
Copper	41.2	2.70	ng/m³ Air		41.4			0.442	10	
Lead	0.639	0.219	ng/m³ Air		0.644			0.823	10	
Manganese	15.3	1.94	ng/m³ Air		15.4			0.509	10	
Molybdenum	2.39	0.368	ng/m³ Air		2.39			0.314	10	
Nickel	3.09	0.668	ng/m³ Air		3.11			0.667	10	
Selenium	0.207	0.00918	ng/m³ Air		0.210			1.25	10	
Thallium	0.00190	6.04E-4	ng/m³ Air		0.00197			3.59	10	
Vanadium	1.40	0.0542	ng/m³ Air		1.42			1.82	10	
Zinc	15.5	78.7	ng/m³ Air		ND				10	U
Matrix Spike (B4H2703-MS1)		**Source: 4082761-21**		Prepared & Analyzed: 08/21/24						
Antimony	0.845	0.0317	ng/m³ Air	1.1358	0.101	65.5	80-120			SL
Arsenic	2.57	0.00770	ng/m³ Air	2.2715	0.355	97.4	80-120			
Barium	26.0	0.879	ng/m³ Air	22.715	3.31	99.7	80-120			
Beryllium	1.12	0.00263	ng/m³ Air	1.1358	0.00779	97.5	80-120			
Cadmium	1.15	0.0609	ng/m³ Air	1.1358	ND	101	80-120			
Chromium	12.8	1.82	ng/m³ Air	11.358	ND	112	80-120			
Cobalt	1.28	0.0358	ng/m³ Air	1.1358	0.203	95.1	80-120			
Copper	70.2	2.16	ng/m³ Air	22.715	43.8	116	80-120			
Lead	12.0	0.176	ng/m³ Air	11.358	0.554	101	80-120			
Manganese	13.4	1.55	ng/m³ Air	6.8146	6.77	96.9	80-120			
Molybdenum	5.55	0.295	ng/m³ Air	1.1358	4.27	113	80-120			
Nickel	3.16	0.535	ng/m³ Air	2.2715	0.895	99.9	80-120			
Selenium	2.42	0.00736	ng/m³ Air	2.2715	0.212	97.1	80-120			
Thallium	0.112	4.84E-4	ng/m³ Air	0.11358	0.00135	97.4	80-120			
Vanadium	3.36	0.0434	ng/m³ Air	2.2715	1.08	100	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Matrix Spike (B4H2703-MS1) Continued Source: 4082761-21 Prepared & Analyzed: 08/21/24										
Zinc	77.1	63.1	ng/m³ Air	68.146	ND	113	80-120			
Matrix Spike (B4H2703-MS2) Source: 4082761-03 Prepared: 08/21/24 Analyzed: 08/22/24										
Antimony	0.643	0.0316	ng/m³ Air	1.1319	0.0465	52.7	80-120			SL
Arsenic	2.27	0.00767	ng/m³ Air	2.2638	0.158	93.3	80-120			
Barium	25.1	0.876	ng/m³ Air	22.638	2.95	98.1	80-120			
Beryllium	1.09	0.00262	ng/m³ Air	1.1319	0.0246	94.2	80-120			
Cadmium	1.12	0.0606	ng/m³ Air	1.1319	ND	99.1	80-120			
Chromium	13.6	1.81	ng/m³ Air	11.319	2.54	97.6	80-120			
Cobalt	1.47	0.0357	ng/m³ Air	1.1319	0.439	91.2	80-120			
Copper	64.1	2.15	ng/m³ Air	22.638	48.5	69.0	80-120			QM-07
Lead	11.4	0.175	ng/m³ Air	11.319	0.537	96.0	80-120			
Manganese	17.5	1.55	ng/m³ Air	6.7913	11.7	85.6	80-120			
Molybdenum	3.17	0.294	ng/m³ Air	1.1319	2.15	90.5	80-120			
Nickel	3.34	0.534	ng/m³ Air	2.2638	1.15	96.8	80-120			
Selenium	2.35	0.00733	ng/m³ Air	2.2638	0.150	97.3	80-120			
Thallium	0.109	4.82E-4	ng/m³ Air	0.11319	8.97E-4	95.1	80-120			
Vanadium	3.40	0.0433	ng/m³ Air	2.2638	1.19	97.6	80-120			
Zinc	76.6	62.9	ng/m³ Air	67.913	ND	113	80-120			
Matrix Spike Dup (B4H2703-MSD1) Source: 4082761-21 Prepared & Analyzed: 08/21/24										
Antimony	0.840	0.0317	ng/m³ Air	1.1358	0.101	65.1	80-120	0.582	20	SL
Arsenic	2.54	0.00770	ng/m³ Air	2.2715	0.355	96.4	80-120	0.905	20	
Barium	25.7	0.879	ng/m³ Air	22.715	3.31	98.7	80-120	0.938	20	
Beryllium	1.13	0.00263	ng/m³ Air	1.1358	0.00779	98.7	80-120	1.24	20	
Cadmium	1.17	0.0609	ng/m³ Air	1.1358	ND	103	80-120	1.40	20	
Chromium	12.6	1.82	ng/m³ Air	11.358	ND	111	80-120	1.13	20	
Cobalt	1.26	0.0358	ng/m³ Air	1.1358	0.203	93.3	80-120	1.63	20	
Copper	72.5	2.16	ng/m³ Air	22.715	43.8	127	80-120	3.32	20	QM-07
Lead	12.0	0.176	ng/m³ Air	11.358	0.554	101	80-120	0.194	20	
Manganese	12.8	1.55	ng/m³ Air	6.8146	6.77	89.0	80-120	4.14	20	
Molybdenum	5.84	0.295	ng/m³ Air	1.1358	4.27	139	80-120	5.17	20	QM-07
Nickel	3.10	0.535	ng/m³ Air	2.2715	0.895	97.0	80-120	2.12	20	
Selenium	2.45	0.00736	ng/m³ Air	2.2715	0.212	98.4	80-120	1.18	20	
Thallium	0.111	4.84E-4	ng/m³ Air	0.11358	0.00135	96.7	80-120	0.722	20	
Vanadium	3.30	0.0434	ng/m³ Air	2.2715	1.08	97.9	80-120	1.68	20	
Zinc	76.1	63.1	ng/m³ Air	68.146	ND	112	80-120	1.23	20	
Matrix Spike Dup (B4H2703-MSD2) Source: 4082761-03 Prepared: 08/21/24 Analyzed: 08/22/24										
Antimony	0.625	0.0316	ng/m³ Air	1.1319	0.0465	51.1	80-120	2.72	20	SL
Arsenic	2.30	0.00767	ng/m³ Air	2.2638	0.158	94.4	80-120	1.10	20	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Matrix Spike Dup (B4H2703-MSD2) Conti				**Source: 4082761-03**		Prepared: 08/21/24		Analyzed: 08/22/24		
Barium	24.9	0.876	ng/m³ Air	22.638	2.95	96.9	80-120	1.00	20	
Beryllium	1.14	0.00262	ng/m³ Air	1.1319	0.0246	98.3	80-120	4.24	20	
Cadmium	1.14	0.0606	ng/m³ Air	1.1319	ND	100	80-120	1.26	20	
Chromium	13.6	1.81	ng/m³ Air	11.319	2.54	98.1	80-120	0.354	20	
Cobalt	1.47	0.0357	ng/m³ Air	1.1319	0.439	90.8	80-120	0.347	20	
Copper	61.5	2.15	ng/m³ Air	22.638	48.5	57.4	80-120	4.20	20	QM-07
Lead	11.4	0.175	ng/m³ Air	11.319	0.537	96.3	80-120	0.275	20	
Manganese	17.6	1.55	ng/m³ Air	6.7913	11.7	87.0	80-120	0.527	20	
Molybdenum	3.03	0.294	ng/m³ Air	1.1319	2.15	77.8	80-120	4.65	20	QM-07
Nickel	3.22	0.534	ng/m³ Air	2.2638	1.15	91.5	80-120	3.70	20	
Selenium	2.29	0.00733	ng/m³ Air	2.2638	0.150	94.7	80-120	2.47	20	
Thallium	0.110	4.82E-4	ng/m³ Air	0.11319	8.97E-4	96.4	80-120	1.36	20	
Vanadium	3.40	0.0433	ng/m³ Air	2.2638	1.19	97.3	80-120	0.197	20	
Zinc	78.7	62.9	ng/m³ Air	67.913	ND	116	80-120	2.63	20	
Post Spike (B4H2703-PS1)				**Source: 4082761-21**		Prepared & Analyzed: 08/21/24				
Antimony	0.326	0.0317	ng/m³ Air	0.22715	0.101	99.3	75-125			SL
Arsenic	1.41	0.00770	ng/m³ Air	1.1358	0.355	92.9	75-125			
Barium	5.48	0.879	ng/m³ Air	2.2715	3.31	95.2	75-125			
Beryllium	0.227	0.00263	ng/m³ Air	0.22715	0.00779	96.6	75-125			
Cadmium	0.129	0.0609	ng/m³ Air	0.11358	ND	113	75-125			
Chromium	2.60	1.82	ng/m³ Air	1.1358	ND	229	75-125			
Cobalt	0.415	0.0358	ng/m³ Air	0.22715	0.203	93.6	75-125			
Copper	55.6	2.16	ng/m³ Air	11.358	43.8	104	75-125			
Lead	23.1	0.176	ng/m³ Air	22.715	0.554	99.3	75-125			
Manganese	8.85	1.55	ng/m³ Air	2.2715	6.77	91.6	75-125			
Molybdenum	5.36	0.295	ng/m³ Air	1.1358	4.27	96.7	75-125			
Nickel	3.06	0.535	ng/m³ Air	2.2715	0.895	95.5	75-125			
Selenium	1.31	0.00736	ng/m³ Air	1.1358	0.212	96.3	75-125			
Thallium	0.0558	4.84E-4	ng/m³ Air	5.6788E-2	0.00135	96.0	75-125			
Vanadium	2.15	0.0434	ng/m³ Air	1.1358	1.08	94.7	75-125			
Zinc	31.1	63.1	ng/m³ Air	22.715	ND		75-125			U
Post Spike (B4H2703-PS2)				**Source: 4082761-03**		Prepared: 08/21/24		Analyzed: 08/22/24		
Antimony	0.271	0.0316	ng/m³ Air	0.22638	0.0465	99.0	75-125			SL
Arsenic	1.21	0.00767	ng/m³ Air	1.1319	0.158	93.3	75-125			
Barium	5.14	0.876	ng/m³ Air	2.2638	2.95	97.0	75-125			
Beryllium	0.228	0.00262	ng/m³ Air	0.22638	0.0246	90.0	75-125			
Cadmium	0.121	0.0606	ng/m³ Air	0.11319	ND	107	75-125			
Chromium	3.65	1.81	ng/m³ Air	1.1319	2.54	98.1	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Post Spike (B4H2703-PS2) Continued		**Source: 4082761-03**		Prepared: 08/21/24 Analyzed: 08/22/24						
Cobalt	0.657	0.0357	ng/m³ Air	0.22638	0.439	96.1	75-125			
Copper	60.4	2.15	ng/m³ Air	11.319	48.5	106	75-125			
Lead	23.1	0.175	ng/m³ Air	22.638	0.537	99.5	75-125			
Manganese	13.9	1.55	ng/m³ Air	2.2638	11.7	94.8	75-125			
Molybdenum	3.22	0.294	ng/m³ Air	1.1319	2.15	94.8	75-125			
Nickel	3.34	0.534	ng/m³ Air	2.2638	1.15	96.9	75-125			
Selenium	1.28	0.00733	ng/m³ Air	1.1319	0.150	99.4	75-125			
Thallium	0.0550	4.82E-4	ng/m³ Air	5.6594E-2	8.97E-4	95.5	75-125			
Vanadium	2.28	0.0433	ng/m³ Air	1.1319	1.19	96.2	75-125			
Zinc	34.3	62.9	ng/m³ Air	22.638	ND		75-125			U
Dilution Check (B4H2703-SRL1)		**Source: 4082761-21**		Prepared & Analyzed: 08/21/24						
Antimony	0.0979	0.0317	ng/m³ Air		0.101			2.81	10	SL
Arsenic	0.359	0.00770	ng/m³ Air		0.355			1.23	10	
Barium	3.32	0.879	ng/m³ Air		3.31			0.280	10	
Beryllium	0.00642	0.00263	ng/m³ Air		0.00779			19.2	10	
Cadmium	0.0191	0.0609	ng/m³ Air		ND				10	U
Chromium	1.55	1.82	ng/m³ Air		ND				10	U
Cobalt	0.211	0.0358	ng/m³ Air		0.203			3.78	10	
Copper	45.6	2.16	ng/m³ Air		43.8			4.03	10	
Lead	0.548	0.176	ng/m³ Air		0.554			1.06	10	
Manganese	7.02	1.55	ng/m³ Air		6.77			3.62	10	
Molybdenum	4.28	0.295	ng/m³ Air		4.27			0.297	10	
Nickel	0.912	0.535	ng/m³ Air		0.895			1.97	10	
Selenium	0.215	0.00736	ng/m³ Air		0.212			1.42	10	
Thallium	0.00337	4.84E-4	ng/m³ Air		0.00135			85.9	10	
Vanadium	1.11	0.0434	ng/m³ Air		1.08			2.50	10	
Zinc	9.37	63.1	ng/m³ Air		ND				10	U
Dilution Check (B4H2703-SRL2)		**Source: 4082761-03**		Prepared: 08/21/24 Analyzed: 08/22/24						
Antimony	0.0469	0.0316	ng/m³ Air		0.0465			0.806	10	SL
Arsenic	0.152	0.00767	ng/m³ Air		0.158			3.68	10	
Barium	3.06	0.876	ng/m³ Air		2.95			3.71	10	
Beryllium	0.0223	0.00262	ng/m³ Air		0.0246			9.70	10	
Cadmium	0.00860	0.0606	ng/m³ Air		ND				10	U
Chromium	2.62	1.81	ng/m³ Air		2.54			2.87	10	
Cobalt	0.454	0.0357	ng/m³ Air		0.439			3.27	10	
Copper	49.9	2.15	ng/m³ Air		48.5			2.89	10	
Lead	0.528	0.175	ng/m³ Air		0.537			1.62	10	
Manganese	11.9	1.55	ng/m³ Air		11.7			1.65	10	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2703 - ICP-MS Extraction										
Dilution Check (B4H2703-SRL2) ContinueSource: 4082761-03 Prepared: 08/21/24 Analyzed: 08/22/24										
Molybdenum	2.28	0.294	ng/m³ Air		2.15			6.21	10	
Nickel	1.17	0.534	ng/m³ Air		1.15			1.75	10	
Selenium	0.147	0.00733	ng/m³ Air		0.150			2.25	10	
Thallium	0.00114	4.82E-4	ng/m³ Air		8.97E-4			23.9	10	
Vanadium	1.24	0.0433	ng/m³ Air		1.19			3.90	10	
Zinc	12.0	62.9	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

August 15 through August 21, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from August 15 through August 21, 2024 at the four community locations listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 15 through August 21 at each of the four locations listed above. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each monitoring location throughout this reporting period. Monitoring was conducted for 24 hours a day at each station except for Leialii Hawaiian Homelands on August 16 which was monitored for 22 hours due to equipment maintenance. None of the results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results were below the SSAL of 0.003 structures per cubic centimeter (s/cc) and below the laboratory's analytical sensitivity (see **Table 2**).

The heavy metal sample collected on August 15, 2024, from WW Pump Station #4 was voided because of equipment motor malfunction resulting in insufficient sample time and volume. For all other heavy metals, only low levels (i.e., all below the respective SSALs) were detected in ambient air samples at all community sampling locations (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating from a generally south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post- calibration of each sampling pump, according to a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" 073-3 "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," which were included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- ASTM SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, "Recording of Notes in Field Logbook."

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 15 through August 21, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/15/2024	Leialii Hawaiian Homelands (AM-01)	8.9
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	7.0
	Lahaina Boys & Girls Club (AM-04)	16
8/16/2024	Leialii Hawaiian Homelands (AM-01)	6.7*
	WW Pump Station #4 (AM-02)	5.1
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	20
8/17/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	5.0
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	18
8/18/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	4.8
	Lahaina Intermediate School (AM-03)	6.2
	Lahaina Boys & Girls Club (AM-04)	18
8/19/2024	Leialii Hawaiian Homelands (AM-01)	6.6
	WW Pump Station #4 (AM-02)	4.9
	Lahaina Intermediate School (AM-03)	41
	Lahaina Boys & Girls Club (AM-04)	15
8/20/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	4.9
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	15
8/21/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	9.5
	Lahaina Boys & Girls Club (AM-04)	17

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
*Data provided as a 22-hour TWA due to equipment maintenance

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 15 through August 21, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
8/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000820	0.00164	0.00741	0.0000306	ND	0.00665	0.00139	0.197	0.000494	0.0330	0.0114	0.00341	0.000262	0.00000247	0.00417	ND
	WW Pump Station #4 (AM-02)	<0.0024																
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000575	0.000198	0.00283	0.0000205	ND	0.00244	0.000397	0.0628	0.000464	0.0107	0.00357	0.00122	0.000179	0.00000153	0.00112	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000291	0.00305	0.00000948	ND	0.00247	0.000345	0.0477	0.000575	0.0102	0.00281	0.00133	0.000197	0.00000168	0.000951	ND
8/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000571	0.00132	0.0121	0.0000601	ND	0.00961	0.00235	0.276	0.000824	0.0602	0.0128	0.00618	0.000342	0.00000323	0.00701	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000115	0.000318	0.00414	0.0000123	ND	0.00221	0.000345	0.0654	0.00107	0.0112	0.00328	0.00101	0.000230	0.00000148	0.00134	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000479	0.000177	0.00298	0.0000289	ND	0.00295	0.000486	0.0453	0.000330	0.0126	0.00329	0.00161	0.000181	0.00000138	0.00133	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.000186	0.00291	0.00000966	ND	0.00298	0.000363	0.0563	0.000445	0.0114	0.00298	0.00171	0.000196	0.00000158	0.00102	ND
8/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000487	0.000526	0.00548	0.0000221	ND	0.00428	0.000906	0.366	0.000371	0.0274	0.0158	0.00231	0.000216	0.00000188	0.00285	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000944	0.000258	0.00360	0.0000126	ND	0.00212	0.000367	0.0676	0.000648	0.0118	0.00294	0.000961	0.000206	0.00000135	0.00131	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000378	0.000133	0.00232	0.0000187	ND	0.00253	0.000364	0.0571	0.000284	0.00990	0.00314	0.00147	0.000157	0.00000119	0.000984	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000960	0.000143	0.00230	0.00000644	ND	0.00315	0.000242	0.0329	0.000310	0.00717	0.00184	0.00187	0.000150	0.00000117	0.000684	ND
8/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000780	0.00154	0.00371	0.0000115	ND	0.00326	0.000459	0.281	0.000256	0.0126	0.0109	0.00127	0.000175	0.00000148	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000956	0.000229	0.00315	0.00000867	ND	0.00205	0.000266	0.0837	0.000542	0.00794	0.00334	0.000865	0.000153	0.00000135	0.000877	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000155	0.00262	0.0000242	ND	0.00279	0.000391	0.0568	0.000276	0.0102	0.00320	0.00132	0.000167	0.00000150	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000141	0.00224	0.00000579	ND	0.00252	0.000217	0.0375	0.000334	0.00646	0.00231	0.00116	0.000142	0.00000129	0.000554	ND
8/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000129	0.00298	0.00802	0.0000251	ND	0.00633	0.00113	0.294	0.000458	0.0275	0.0111	0.00287	0.000193	0.00000202	0.00345	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000861	0.000393	0.00380	0.0000140	ND	0.00243	0.000407	0.112	0.000926	0.0126	0.00356	0.00112	0.000163	0.00000154	0.00140	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000448	0.000143	0.00268	0.0000178	0.000407	0.00263	0.000441	0.0428	0.000432	0.0104	0.00274	0.00464	0.000147	0.00000157	0.000953	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000910	0.000171	0.00338	0.00000737	ND	0.00239	0.000263	0.0376	0.000395	0.00773	0.00234	0.00118	0.000132	0.00000136	0.000753	ND
8/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000557	0.000865	0.00648	0.0000257	ND	0.00614	0.00123	0.299	0.000495	0.0279	0.0124	0.00372	0.000176	0.00000140	0.00362	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000933	0.000330	0.00484	0.0000166	ND	0.00278	0.000501	0.152	0.000868	0.0144	0.00502	0.00147	0.000167	0.00000108	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000429	0.000151	0.00266	0.0000175	ND	0.00241	0.000350	0.0406	0.000352	0.00889	0.00293	0.00134	0.000118	0.000000809	0.00108	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000816	0.000228	0.00290	0.0000109	ND	0.00482	0.000416	0.0314	0.000424	0.0108	0.00218	0.00238	0.000124	0.000000886	0.00124	ND
8/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000490	0.000680	0.00867	0.0000332	ND	0.00622	0.00147	0.278	0.000643	0.0396	0.0106	0.00420	0.000289	0.00000233	0.00460	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000127	0.000383	0.00511	0.0000157	ND	0.00270	0.000479	0.136	0.000781	0.0148	0.00361	0.00143	0.000254	0.00000161	0.00197	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000576	0.000231	0.00452	0.0000385	ND	0.00339	0.000577	0.0471	0.000613	0.0144	0.00346	0.00204	0.000225	0.00000139	0.00174	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000259	0.00338	0.0000124	0.000112	0.00249	0.000408	0.0321	0.000687	0.0126	0.00194	0.00134	0.000222	0.00000148	0.00143	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000710	0.00508	0.0000240	NA	0.00413	0.000760	0.171	0.000940	0.0199	0.00693	0.00247	0.000210	0.00000170	0.00236	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

HM Sample voided due to equipment motor malfunction

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
August 15 through August 21, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/15/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	86	58	760.9
8/15/2024	AM-02	WW Pump Station #4	1.1	SSE	81	65	763.1
8/15/2024	AM-03	Lahaina Intermediate School	1.2	ESE	81	62	753.7
8/15/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	80	66	762.7
8/16/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	88	60	761.3
8/16/2024	AM-02	WW Pump Station #4	1.0	S	82	68	763.4
8/16/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	64	754.0
8/16/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	82	69	763.0
8/17/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	87	60	760.8
8/17/2024	AM-02	WW Pump Station #4	0.9	S	82	67	763.2
8/17/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	63	753.8
8/17/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	82	68	762.8
8/18/2024	AM-01	Leialii Hawaiian Homelands	1.4	SE	86	63	760.0
8/18/2024	AM-02	WW Pump Station #4	0.9	SSE	83	66	762.4
8/18/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	64	753.0
8/18/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	82	68	762.0
8/19/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	85	66	759.5
8/19/2024	AM-02	WW Pump Station #4	0.8	SSE	82	71	761.9
8/19/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	70	752.4
8/19/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	82	71	761.5
8/20/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	88	61	759.9
8/20/2024	AM-02	WW Pump Station #4	1.0	S	82	69	762.4
8/20/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	66	752.9
8/20/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	82	69	762.0
8/21/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	87	57	760.9
8/21/2024	AM-02	WW Pump Station #4	1.1	SSE	82	64	763.3
8/21/2024	AM-03	Lahaina Intermediate School	1.0	ESE	82	62	753.8
8/21/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	81	65	762.9

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081524-AB** **Sample Description: DL274933**

EMSL Sample Number:	042417467-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7091.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0001 **Customer Sample:** MFL-AM01-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B6	None Detected									
B2	F10	None Detected									
B2	I5	None Detected									
B3	G7	None Detected									
B3	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081524-AB**		**Sample Description:**	**DL275066**
EMSL Sample Number:	042417467-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0002 **Customer Sample:** MFL-AM02-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C7	G3	None Detected									
C7	D5	None Detected									
C7	A4	None Detected									
C8	D7	None Detected									
C8	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081524-AB** **Sample Description:** **DL274851**

EMSL Sample Number:	042417467-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0003 **Customer Sample:** MFL-AM03-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	H3	None Detected									
C2	E2	None Detected									
C2	A3	None Detected									
C3	H2	None Detected									
C3	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081524-AB**		**Sample Description:**	**DL274860**
EMSL Sample Number:	042417467-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0004 **Customer Sample:** MFL-AM04-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A8	None Detected									
C5	E9	None Detected									
C5	I6	None Detected									
C6	C9	None Detected									
C6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-081524-AB**		**Sample Description:**	**DL274869**
EMSL Sample Number:	042417467-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0005 **Customer Sample:** MFL-FB01-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A8	None Detected									
D2	C6	None Detected									
D2	D4	None Detected									
D2	E8	None Detected									
D2	H7	None Detected									
D3	J3	None Detected									
D3	H2	None Detected									
D3	F2	None Detected									
D3	D3	None Detected									
D3	A1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081624-AB** **Sample Description:** **DL275003**

EMSL Sample Number:	042417467-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7276.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042417467**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0006 **Customer Sample:** MFL-AM01-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	I7	None Detected									
D6	F8	None Detected									
D6	C10	None Detected									
D7	C1	None Detected									
D7	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081624-AB** **Sample Description: DL274852**

EMSL Sample Number:	042417467-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0007 **Customer Sample:** MFL-AM02-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H3	None Detected									
E1	E2	None Detected									
E1	C4	None Detected									
E2	B9	None Detected									
E2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081624-AB**		**Sample Description:**	**DL274853**
EMSL Sample Number:	042417467-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0008 **Customer Sample:** MFL-AM03-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I2	None Detected									
E5	F7	None Detected									
E5	E1	None Detected									
E6	A10	None Detected									
E6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081624-AB** **Sample Description:** **DL274873**

EMSL Sample Number:	042417467-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0009 **Customer Sample:** MFL-AM04-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	E2	None Detected									
F1	G2	None Detected									
F1	I5	None Detected									
F2	H6	None Detected									
F2	A8	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	08/26/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-081624-AB**		**Sample Description:**	**DL274938**
EMSL Sample Number:	042417467-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0010 **Customer Sample:** MFL-FB01-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B2	None Detected									
F1	B7	None Detected									
F1	D1	None Detected									
F2	J10	None Detected									
F2	J5	None Detected									
F2	I4	None Detected									
F2	G10	None Detected									
F2	B8	None Detected									
F2	B6	None Detected									
F2	A3	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081724-AB** **Sample Description: DL275097**

EMSL Sample Number:	042417467-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0011 **Customer Sample:** MFL-AM01-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	H9	None Detected									
G2	F7	None Detected									
G2	D5	None Detected									
G3	I7	None Detected									
G3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/26/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081724-AB** **Sample Description: DL274871**

EMSL Sample Number:	042417467-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0012 **Customer Sample:** MFL-AM02-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	A10	None Detected									
G6	D6	None Detected									
G6	I9	None Detected									
G7	G2	None Detected									
G7	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081724-AB** **Sample Description: DL274850**

EMSL Sample Number:	042417467-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0013 **Customer Sample:** MFL-AM03-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B10	None Detected									
H2	E9	None Detected									
H2	G5	None Detected									
H3	C5	None Detected									
H3	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081724-AB**		**Sample Description:**	**DL275111**
EMSL Sample Number:	042417467-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7115.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0014 **Customer Sample:** MFL-AM04-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	C7	None Detected									
H5	F3	None Detected									
H5	H3	None Detected									
H6	C5	None Detected									
H6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081724-AB** **Sample Description: DL275023**

EMSL Sample Number:	042417467-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0015 **Customer Sample:** MFL-FB01-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A6	None Detected									
I2	C8	None Detected									
I2	E8	None Detected									
I2	G9	None Detected									
I2	I6	None Detected									
I3	A6	None Detected									
I3	C6	None Detected									
I3	E1	None Detected									
I3	G5	None Detected									
I3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
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Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-081824-AB**		**Sample Description:**	**DL274924**
EMSL Sample Number:	042417467-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0016 **Customer Sample:** MFL-AM01-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J3	None Detected									
I5	G1	None Detected									
I5	D3	None Detected									
I6	B8	None Detected									
I6	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417467
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081824-AB**		**Sample Description:**	**DL274915**
EMSL Sample Number:	042417467-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0017 **Customer Sample:** MFL-AM02-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	I5	None Detected									
J2	G7	None Detected									
J2	D5	None Detected									
J3	H5	None Detected									
J3	B9	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081824-AB** **Sample Description:** **DL274927**

EMSL Sample Number:	042417467-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0018 **Customer Sample:** MFL-AM03-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H8	None Detected									
J5	E7	None Detected									
J5	B7	None Detected									
J6	I7	None Detected									
J6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081824-AB**	**Sample Description:**	**DL274946**
EMSL Sample Number:	042417467-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7153.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0019 **Customer Sample:** MFL-AM04-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	B8	None Detected									
K2	F9	None Detected									
K2	H6	None Detected									
K3	B7	None Detected									
K3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081824-AB** **Sample Description:** **DL274903**

EMSL Sample Number:	042417467-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0020 **Customer Sample:** MFL-FB01-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J4	None Detected									
K5	H7	None Detected									
K5	F7	None Detected									
K5	D6	None Detected									
K5	B4	None Detected									
K6	J6	None Detected									
K6	H1	None Detected									
K6	F3	None Detected									
K6	D2	None Detected									
K6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Fax:	N/A
Received Date:	08/21/2024 09:30 AM
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Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042417467-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417467
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417467-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J2	None Detected									
A1	I4	None Detected									
A1	H2	None Detected									
A1	G8	None Detected									
A1	D3	None Detected									
A2	J2	None Detected									
A2	H3	None Detected									
A2	F4	None Detected									
A2	C4	None Detected									
A2	A1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042417467

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417467

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Kanoa Saldana
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

RECEIVED EMSL CINNAMINSON NJ 24 AUG 21 AM 5:11

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-081524-AB	DL ~~247933~~ 274933 (EKS)	7,091.774	08/15/24 1101
MFL-AM02-081524-AB	DL275066	7,215.601	08/15/24 1119
MFL-AM03-081524-AB	DL274851	7,197.618	08/15/24 1310
MFL-AM04-081524-AB	DL274860	7,270.128	08/15/24 1326
MFL-FB01-081524-AB	DL274869	0	08/15/24 1200
MFL-AM01-081624-AB	DL275003	7,275.962	08/16/24 1100
* MFL-AM02-081624-AB	~~DL274853~~ (EKS)	~~7,212.708~~ (EKS)	08/16/24 1118
MFL-AM03-081624-AB	DL274853	7,212.708	08/16/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Sample MFL-AM02-081624-AB s/n is DL274852 & volume is 7,238.284

All samples received acceptable for analysis.

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by	Date/Time	Received by	Date/Time
	08/19/24 1100	FX	8/21/24 9:30

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20 AM

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417467

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-081624-AB	DL274873	7,225.567	08/16/24 1318
MFL-FB01-081624-AB	DL274938	0	08/16/24 1200
MFL-AM01-081724-AB	DL275097	7,178.420	08/17/24 1059
MFL-AM02-081724-AB	DL274871	7,163.055	08/17/24 1117
MFL-AM03-081724-AB (EVS)	DL274850	7,057.576	08/17/24 1301
MFL-AM04-081724-AB	DL275111	7,115.306	08/17/24 1320
MFL-FB01-081724-AB	DL275023	0	08/17/24 1200
MFL-AM01-081824-AB	DL274924	7,174.256	08/18/24 1058
MFL-AM02-081824-AB	DL274915	7,145.583	08/18/24 1114
MFL-AM03-081824-AB	DL274927	7,229.772	08/18/24 1257
MFL-AM04-081824-AB	DL274946	7,153.578	08/18/24 1319
MFL-FB01-081824-AB	DL274903	0	08/18/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 21 AM 11:51

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [illegible]	Date/Time: 08/19/24 1100	Received by: [signature]	Date/Time 8/21/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/29/2024 and Shanna Vasser 08/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/15/2024 – 08/18/2024
Report No: 42417467

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081924-AB** **Sample Description:** **DL274889**

EMSL Sample Number:	042417809-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0001 **Customer Sample:** MFL-AM01-081924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B9	None Detected									
A5	D5	None Detected									
A5	H9	None Detected									
A6	C8	None Detected									
A6	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081924-AB**	**Sample Description:**	**DL274939**
EMSL Sample Number:	042417809-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7139.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0002 **Customer Sample:** MFL-AM02-081924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C8	None Detected									
B1	E7	None Detected									
B1	H8	None Detected									
B2	C10	None Detected									
B2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081924-AB**		**Sample Description:**	**DL274985**
EMSL Sample Number:	042417809-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0003 **Customer Sample:** MFL-AM03-081924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I4	None Detected									
B5	G2	None Detected									
B5	B5	None Detected									
B6	G2	None Detected									
B6	D1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081924-AB** **Sample Description:** **DL275123**

EMSL Sample Number:	042417809-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0004 **Customer Sample:** MFL-AM04-081924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I1	None Detected									
C1	E5	None Detected									
C1	C5	None Detected									
C2	H5	None Detected									
C2	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
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Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081924-AB** **Sample Description:** **DL274920**

EMSL Sample Number:	042417809-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0005 **Customer Sample:** MFL-FB01-081924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	H7	None Detected									
C5	F4	None Detected									
C5	D9	None Detected									
C5	B8	None Detected									
C6	A5	None Detected									
C6	C8	None Detected									
C6	E7	None Detected									
C6	G6	None Detected									
C6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-082024-AB** **Sample Description:** **DL274911**

EMSL Sample Number:	042417809-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7240.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0006 **Customer Sample:** MFL-AM01-082024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	G5	None Detected									
D1	E7	None Detected									
D1	C2	None Detected									
D2	B8	None Detected									
D2	I10	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-082024-AB** **Sample Description:** **DL274929**

EMSL Sample Number:	042417809-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0007 **Customer Sample:** MFL-AM02-082024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A8	None Detected									
D5	E8	None Detected									
D5	I5	None Detected									
D6	A5	None Detected									
D6	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-082024-AB** **Sample Description:** **DL274935**

EMSL Sample Number:	042417809-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0008 **Customer Sample:** MFL-AM03-082024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	G4	None Detected									
E1	E2	None Detected									
E1	B5	None Detected									
E2	B5	None Detected									
E2	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-082024-AB** **Sample Description:** **DL275045**

EMSL Sample Number:	042417809-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7172.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0009 **Customer Sample:** MFL-AM04-082024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C6	None Detected									
E5	F7	None Detected									
E5	J8	None Detected									
E6	I3	None Detected									
E6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082024-AB** **Sample Description:** **DL275090**

EMSL Sample Number:	042417809-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0010 **Customer Sample:** MFL-FB01-082024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J7	None Detected									
F1	H10	None Detected									
F1	F7	None Detected									
F1	D9	None Detected									
F1	B5	None Detected									
F2	J5	None Detected									
F2	H3	None Detected									
F2	F4	None Detected									
F2	D5	None Detected									
F2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-082124-AB**	**Sample Description:**	**DL275088**
EMSL Sample Number:	042417809-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7196.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0011 **Customer Sample:** MFL-AM01-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A8	None Detected									
F5	D5	None Detected									
F5	G2	None Detected									
F6	H10	None Detected									
F6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082124-AB**	**Sample Description:**	**DL274956**
EMSL Sample Number:	042417809-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7297.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0012 **Customer Sample:** MFL-AM02-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B4	None Detected									
G1	E7	None Detected									
G1	I5	None Detected									
G2	D5	None Detected									
G2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082124-AB**	**Sample Description:**	**DL274916**
EMSL Sample Number:	042417809-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7243.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0013 **Customer Sample:** MFL-AM03-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	J3	None Detected									
G6	F4	None Detected									
G6	C5	None Detected									
G7	J7	None Detected									
G7	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-082124-AB** **Sample Description: DL274947**

EMSL Sample Number:	042417809-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0014 **Customer Sample:** MFL-AM04-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	F2	None Detected									
H1	G6	None Detected									
H1	J7	None Detected									
H2	H2	None Detected									
H2	C5	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082124-AB** **Sample Description:** **DL274932**

EMSL Sample Number:	042417809-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0015 **Customer Sample:** MFL-FB01-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J5	None Detected									
H5	H3	None Detected									
H5	F8	None Detected									
H5	D6	None Detected									
H5	B4	None Detected									
H6	J4	None Detected									
H6	H3	None Detected									
H6	F4	None Detected									
H6	D5	None Detected									
H6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042417809-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417809
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417809-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A9	None Detected									
A2	C10	None Detected									
A2	E7	None Detected									
A2	D5	None Detected									
A2	I9	None Detected									
A3	A10	None Detected									
A3	C9	None Detected									
A3	E7	None Detected									
A3	G5	None Detected									
A3	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042417809

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042417809

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
Email: CinnAsbLab@EMSL.com

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EMSL
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24 AUG 26 AM 9:42

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Marysa Saldaña
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-081924-AB	DL274889	7,273.159	08/19/24 1101
MFL-AM02-081924-AB	DL274939	7,139.735	08/19/24 1115
MFL-AM03-081924-AB	DL274985	7,170.105	08/19/24 1259
MFL-AM04-081924-AB	DL275123	7,165.313	08/19/24 1319
MFL-FB01-081924-AB	DL274920	0	08/19/24 1200
MFL-AM01-082024-AB	DL274911	7,240.376	08/20/24 1057
MFL-AM02-082024-AB	DL274929	7,139.809	08/20/24 1111
MFL-AM03-082024-AB	DL274935	7,162.008	08/20/24 1300

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	08/22/24 1100	FedEx	8/26/24 940A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042417809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417809

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-082024-AB	DL275045	7,172.211	08/20/24 1319
MFL-FB01-082024-AB	DL275090	0	08/20/24 1200
MFL-AM01-082124-AB	DL275088	7,196.400	08/21/24 1100
MFL-AM02-082124-AB	DL274956	7,297.250	08/21/24 1119
MFL-AM03-082124-AB	DL274916	7,243.494	08/21/24 1300
MFL-AM04-082124-AB	DL274947	7,266.096	08/21/24 1323
MFL-FB01-082124-AB	DL274932	0	08/21/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 26 AM 9:42

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/22/24 1100	Received by: FedEx	Date/Time 8/26/24 9:10A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/03/2024 and Shanna Vasser 09/04/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/19/2024 – 08/21/2024
Report No: 42417809

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

September 04, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 08/26/24 07:05.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-081524-HM	4H28001-01	Air	08/15/24 23:59	08/26/24 07:05
MFL-AM03-081524-HM	4H28001-03	Air	08/15/24 23:59	08/26/24 07:05
MFL-AM04-081524-HM	4H28001-04	Air	08/15/24 23:59	08/26/24 07:05
MFL-FB01-081524-HM	4H28001-05	Air	08/15/24 00:00	08/26/24 07:05
MFL-AM01-081624-HM	4H28001-06	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM02-081624-HM	4H28001-07	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM03-081624-HM	4H28001-08	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM04-081624-HM	4H28001-09	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM01-081724-HM	4H28001-10	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM02-081724-HM	4H28001-11	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM03-081724-HM	4H28001-12	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM04-081724-HM	4H28001-13	Air	08/17/24 23:59	08/26/24 07:05
MFL-FB01-081724-HM	4H28001-14	Air	08/17/24 00:00	08/26/24 07:05
MFL-AM01-081824-HM	4H28001-15	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM02-081824-HM	4H28001-16	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM03-081824-HM	4H28001-17	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM04-081824-HM	4H28001-18	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM01-081924-HM	4H28001-19	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM02-081924-HM	4H28001-20	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM03-081924-HM	4H28001-21	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM04-081924-HM	4H28001-22	Air	08/19/24 23:59	08/26/24 07:05

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-FB01-081924-HM	4H28001-23	Air	08/19/24 00:00	08/26/24 07:05
MFL-AM01-082024-HM	4H28001-24	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM02-082024-HM	4H28001-25	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM03-082024-HM	4H28001-26	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM04-082024-HM	4H28001-27	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM01-082124-HM	4H28001-28	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM02-082124-HM	4H28001-29	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM03-082124-HM	4H28001-30	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM04-082124-HM	4H28001-31	Air	08/21/24 23:59	08/26/24 07:05
MFL-FB01-082124-HM	4H28001-32	Air	08/21/24 00:00	08/26/24 07:05

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081524-HM
Matrix: Air
Lab ID: 4H28001-01
Sample Volume: 1946.723 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:07

Comments: Q9553177 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0820**	SL	**0.0323**
Arsenic	**7440-38-2**	**1.64**		**0.00783**
Barium	**7440-39-3**	**7.41**		**0.894**
Beryllium	**7440-41-7**	**0.0306**		**0.00267**
Cadmium	7440-43-9	0.0397	U	0.0619
Chromium	**7440-47-3**	**6.65**		**1.85**
Cobalt	**7440-48-4**	**1.39**	QB-01	**0.0364**
Copper	**7440-50-8**	**197**		**2.20**
Lead	**7439-92-1**	**0.494**		**0.179**
Manganese	**7439-96-5**	**33.0**		**1.58**
Molybdenum	**7439-98-7**	**11.4**		**0.300**
Nickel	**7440-02-0**	**3.41**		**0.545**
Selenium	**7782-49-2**	**0.262**		**0.00749**
Thallium	**7440-28-0**	**0.00247**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**4.17**		**0.0442**
Zinc	7440-66-6	11.9	U	64.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081524-HM
Matrix: Air
Lab ID: 4H28001-03
Sample Volume: 2042.821 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:27

Comments: Q9553175 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0575**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.198**		**0.00746**
Barium	**7440-39-3**	**2.83**		**0.852**
Beryllium	**7440-41-7**	**0.0205**		**0.00255**
Cadmium	7440-43-9	0.0237	U	0.0590
Chromium	**7440-47-3**	**2.44**		**1.76**
Cobalt	**7440-48-4**	**0.397**	QB-01	**0.0347**
Copper	**7440-50-8**	**62.8**		**2.09**
Lead	**7439-92-1**	**0.464**		**0.170**
Manganese	**7439-96-5**	**10.7**		**1.51**
Molybdenum	**7439-98-7**	**3.57**		**0.286**
Nickel	**7440-02-0**	**1.22**		**0.519**
Selenium	**7782-49-2**	**0.179**		**0.00714**
Thallium	**7440-28-0**	**0.00153**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0421**
Zinc	7440-66-6	12.3	U	61.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081524-HM
Matrix: Air
Lab ID: 4H28001-04
Sample Volume: 1642.174 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:44

Comments: Q9553171 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0382**
Arsenic	**7440-38-2**	**0.291**		**0.00928**
Barium	**7440-39-3**	**3.05**		**1.06**
Beryllium	**7440-41-7**	**0.00948**		**0.00317**
Cadmium	7440-43-9	0.0121	U	0.0734
Chromium	**7440-47-3**	**2.47**		**2.19**
Cobalt	**7440-48-4**	**0.345**	QB-01	**0.0432**
Copper	**7440-50-8**	**47.7**		**2.61**
Lead	**7439-92-1**	**0.575**		**0.212**
Manganese	**7439-96-5**	**10.2**		**1.87**
Molybdenum	**7439-98-7**	**2.81**		**0.356**
Nickel	**7440-02-0**	**1.33**		**0.646**
Selenium	**7782-49-2**	**0.197**		**0.00888**
Thallium	**7440-28-0**	**0.00168**	QB-04	**5.84E-4**
Vanadium	**7440-62-2**	**0.951**		**0.0524**
Zinc	7440-66-6	15.4	U	76.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081524-HM
Matrix: Air
Lab ID: 4H28001-05
Sample Volume: 1946.723 m³
Filter ID:
Sampled: 08/15/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:00

Comments: Q9553158 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00982	SL, U	0.0323
Arsenic	7440-38-2	0.00236	U	0.00783
Barium	7440-39-3	0.394	U	0.894
Beryllium	7440-41-7	7.62E-4	U	0.00267
Cadmium	7440-43-9	9.64E-4	U	0.0619
Chromium	7440-47-3	1.12	U	1.85
Cobalt	7440-48-4	0.0229	QB-01, U	0.0364
Copper	7440-50-8	0.419	U	2.20
Lead	7439-92-1	0.0253	U	0.179
Manganese	7439-96-5	0.136	U	1.58
Molybdenum	7439-98-7	0.171	U	0.300
Nickel	7440-02-0	0.272	U	0.545
Selenium	7782-49-2	0.00245	U	0.00749
Thallium	7440-28-0	1.62E-4	QB-04, U	4.92E-4
Vanadium	7440-62-2	0.0175	U	0.0442
Zinc	7440-66-6	3.98	U	64.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081624-HM
Matrix: Air
Lab ID: 4H28001-06
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:14

Comments: Q9553165 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0571**	SL	**0.0329**
Arsenic	**7440-38-2**	**1.32**		**0.00799**
Barium	**7440-39-3**	**12.1**		**0.912**
Beryllium	**7440-41-7**	**0.0601**		**0.00273**
Cadmium	7440-43-9	0.0296	U	0.0632
Chromium	**7440-47-3**	**9.61**		**1.88**
Cobalt	**7440-48-4**	**2.35**	QB-01	**0.0372**
Copper	**7440-50-8**	**276**		**2.24**
Lead	**7439-92-1**	**0.824**		**0.182**
Manganese	**7439-96-5**	**60.2**		**1.61**
Molybdenum	**7439-98-7**	**12.8**		**0.306**
Nickel	**7440-02-0**	**6.18**		**0.556**
Selenium	**7782-49-2**	**0.342**		**0.00764**
Thallium	**7440-28-0**	**0.00323**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**7.01**		**0.0451**
Zinc	7440-66-6	12.5	U	65.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081624-HM
Matrix: Air
Lab ID: 4H28001-07
Sample Volume: 1968.051 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:32

Comments: Q9553164 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.318**		**0.00775**
Barium	**7440-39-3**	**4.14**		**0.885**
Beryllium	**7440-41-7**	**0.0123**		**0.00265**
Cadmium	7440-43-9	0.0134	U	0.0613
Chromium	**7440-47-3**	**2.21**		**1.83**
Cobalt	**7440-48-4**	**0.345**	QB-01	**0.0360**
Copper	**7440-50-8**	**65.4**		**2.17**
Lead	**7439-92-1**	**1.07**		**0.177**
Manganese	**7439-96-5**	**11.2**		**1.56**
Molybdenum	**7439-98-7**	**3.28**		**0.297**
Nickel	**7440-02-0**	**1.01**		**0.539**
Selenium	**7782-49-2**	**0.230**		**0.00741**
Thallium	**7440-28-0**	**0.00148**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0437**
Zinc	7440-66-6	12.8	U	63.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081624-HM
Matrix: Air
Lab ID: 4H28001-08
Sample Volume: 1864.084 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:49

Comments: Q9553161 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0479**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.177**		**0.00818**
Barium	**7440-39-3**	**2.98**		**0.934**
Beryllium	**7440-41-7**	**0.0289**		**0.00279**
Cadmium	7440-43-9	0.0241	U	0.0647
Chromium	**7440-47-3**	**2.95**		**1.93**
Cobalt	**7440-48-4**	**0.486**	QB-01	**0.0381**
Copper	**7440-50-8**	**45.3**		**2.30**
Lead	**7439-92-1**	**0.330**		**0.187**
Manganese	**7439-96-5**	**12.6**		**1.65**
Molybdenum	**7439-98-7**	**3.29**		**0.313**
Nickel	**7440-02-0**	**1.61**		**0.569**
Selenium	**7782-49-2**	**0.181**		**0.00782**
Thallium	**7440-28-0**	**0.00138**	QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0462**
Zinc	7440-66-6	14.4	U	67.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081624-HM
Matrix: Air
Lab ID: 4H28001-09
Sample Volume: 1548.518 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/27/24 19:02

Comments: Q9553159 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0406**
Arsenic	**7440-38-2**	**0.186**		**0.00984**
Barium	**7440-39-3**	**2.91**		**1.12**
Beryllium	**7440-41-7**	**0.00966**		**0.00336**
Cadmium	7440-43-9	0.0219	U	0.0779
Chromium	**7440-47-3**	**2.98**		**2.32**
Cobalt	**7440-48-4**	**0.363**	QB-01	**0.0458**
Copper	**7440-50-8**	**56.3**	QM-07	**2.76**
Lead	**7439-92-1**	**0.445**		**0.225**
Manganese	**7439-96-5**	**11.4**	QM-07	**1.99**
Molybdenum	**7439-98-7**	**2.98**	QM-07	**0.377**
Nickel	**7440-02-0**	**1.71**	QM-07	**0.685**
Selenium	**7782-49-2**	**0.196**		**0.00941**
Thallium	**7440-28-0**	**0.00158**	QB-04	**6.19E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0556**
Zinc	7440-66-6	17.2	U	80.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081724-HM
Matrix: Air
Lab ID: 4H28001-10
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 04:05

Comments: Q9553157 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0487**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.526**		**0.00799**
Barium	**7440-39-3**	**5.48**		**0.912**
Beryllium	**7440-41-7**	**0.0221**		**0.00273**
Cadmium	7440-43-9	0.0174	U	0.0632
Chromium	**7440-47-3**	**4.28**		**1.88**
Cobalt	**7440-48-4**	**0.906**	QB-01	**0.0372**
Copper	**7440-50-8**	**366**		**2.24**
Lead	**7439-92-1**	**0.371**		**0.182**
Manganese	**7439-96-5**	**27.4**		**1.61**
Molybdenum	**7439-98-7**	**15.8**		**0.306**
Nickel	**7440-02-0**	**2.31**		**0.556**
Selenium	**7782-49-2**	**0.216**		**0.00764**
Thallium	**7440-28-0**	**0.00188**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0451**
Zinc	7440-66-6	8.97	U	65.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081724-HM
Matrix: Air
Lab ID: 4H28001-11
Sample Volume: 2008.883 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 04:21

Comments: Q9553155 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0944**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.258**		**0.00759**
Barium	**7440-39-3**	**3.60**		**0.867**
Beryllium	**7440-41-7**	**0.0126**		**0.00259**
Cadmium	7440-43-9	0.00979	U	0.0600
Chromium	**7440-47-3**	**2.12**		**1.79**
Cobalt	**7440-48-4**	**0.367**	QB-01	**0.0353**
Copper	**7440-50-8**	**67.6**		**2.13**
Lead	**7439-92-1**	**0.648**		**0.173**
Manganese	**7439-96-5**	**11.8**		**1.53**
Molybdenum	**7439-98-7**	**2.94**		**0.291**
Nickel	**7440-02-0**	**0.961**		**0.528**
Selenium	**7782-49-2**	**0.206**		**0.00726**
Thallium	**7440-28-0**	**0.00135**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0428**
Zinc	7440-66-6	10.2	U	62.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081724-HM
Matrix: Air
Lab ID: 4H28001-12
Sample Volume: 2061.081 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 05:33

Comments: Q9553153 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0378**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.133**		**0.00740**
Barium	**7440-39-3**	**2.32**		**0.845**
Beryllium	**7440-41-7**	**0.0187**		**0.00253**
Cadmium	7440-43-9	0.0107	U	0.0585
Chromium	**7440-47-3**	**2.53**		**1.74**
Cobalt	**7440-48-4**	**0.364**	QB-01	**0.0344**
Copper	**7440-50-8**	**57.1**		**2.08**
Lead	**7439-92-1**	**0.284**		**0.169**
Manganese	**7439-96-5**	**9.90**		**1.49**
Molybdenum	**7439-98-7**	**3.14**		**0.283**
Nickel	**7440-02-0**	**1.47**		**0.515**
Selenium	**7782-49-2**	**0.157**		**0.00707**
Thallium	**7440-28-0**	**0.00119**	QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**0.984**		**0.0418**
Zinc	7440-66-6	10.4	U	60.6

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081724-HM
Matrix: Air
Lab ID: 4H28001-13
Sample Volume: 1589.685 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 05:50

Comments: Q9553150 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0960**	SL	**0.0395**
Arsenic	**7440-38-2**	**0.143**		**0.00959**
Barium	**7440-39-3**	**2.30**		**1.10**
Beryllium	**7440-41-7**	**0.00644**		**0.00328**
Cadmium	7440-43-9	0.0102	U	0.0758
Chromium	**7440-47-3**	**3.15**		**2.26**
Cobalt	**7440-48-4**	**0.242**	QB-01	**0.0446**
Copper	**7440-50-8**	**32.9**		**2.69**
Lead	**7439-92-1**	**0.310**		**0.219**
Manganese	**7439-96-5**	**7.17**		**1.93**
Molybdenum	**7439-98-7**	**1.84**		**0.367**
Nickel	**7440-02-0**	**1.87**		**0.667**
Selenium	**7782-49-2**	**0.150**		**0.00917**
Thallium	**7440-28-0**	**0.00117**	QB-04	**6.03E-4**
Vanadium	**7440-62-2**	**0.684**		**0.0541**
Zinc	7440-66-6	11.7	U	78.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081724-HM
Matrix: Air
Lab ID: 4H28001-14
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/17/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:07

Comments: Q9553147 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0112	SL, U	0.0329
Arsenic	7440-38-2	0.00699	U	0.00799
Barium	7440-39-3	0.478	U	0.912
Beryllium	7440-41-7	9.47E-4	U	0.00273
Cadmium	7440-43-9	0.00121	U	0.0632
Chromium	7440-47-3	1.05	U	1.88
Cobalt	7440-48-4	0.0264	QB-01, U	0.0372
Copper	7440-50-8	0.943	U	2.24
Lead	7439-92-1	0.0417	U	0.182
Manganese	7439-96-5	0.280	U	1.61
Molybdenum	7439-98-7	0.194	U	0.306
Nickel	7440-02-0	0.266	U	0.556
Selenium	7782-49-2	0.00335	U	0.00764
Thallium	7440-28-0	1.78E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0333	U	0.0451
Zinc	7440-66-6	10.5	U	65.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081824-HM
Matrix: Air
Lab ID: 4H28001-15
Sample Volume: 1906.083 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:21

Comments: Q9553148 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0780**	SL	**0.0329**
Arsenic	**7440-38-2**	**1.54**		**0.00800**
Barium	**7440-39-3**	**3.71**		**0.913**
Beryllium	**7440-41-7**	**0.0115**		**0.00273**
Cadmium	7440-43-9	0.0248	U	0.0633
Chromium	**7440-47-3**	**3.26**		**1.89**
Cobalt	**7440-48-4**	**0.459**	QB-01	**0.0372**
Copper	**7440-50-8**	**281**		**2.24**
Lead	**7439-92-1**	**0.256**		**0.183**
Manganese	**7439-96-5**	**12.6**		**1.61**
Molybdenum	**7439-98-7**	**10.9**		**0.306**
Nickel	**7440-02-0**	**1.27**		**0.557**
Selenium	**7782-49-2**	**0.175**		**0.00765**
Thallium	**7440-28-0**	**0.00148**	QB-04	**5.03E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0452**
Zinc	7440-66-6	12.9	U	65.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081824-HM
Matrix: Air
Lab ID: 4H28001-16
Sample Volume: 1963.939 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:51

Comments: Q9553145 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0956**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.229**		**0.00776**
Barium	**7440-39-3**	**3.15**		**0.886**
Beryllium	**7440-41-7**	**0.00867**		**0.00265**
Cadmium	7440-43-9	0.0121	U	0.0614
Chromium	**7440-47-3**	**2.05**		**1.83**
Cobalt	**7440-48-4**	**0.266**	QB-01	**0.0361**
Copper	**7440-50-8**	**83.7**		**2.18**
Lead	**7439-92-1**	**0.542**		**0.177**
Manganese	**7439-96-5**	**7.94**		**1.57**
Molybdenum	**7439-98-7**	**3.34**		**0.297**
Nickel	**7440-02-0**	**0.865**		**0.540**
Selenium	**7782-49-2**	**0.153**		**0.00742**
Thallium	**7440-28-0**	**0.00135**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**0.877**		**0.0438**
Zinc	7440-66-6	12.2	U	63.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081824-HM
Matrix: Air
Lab ID: 4H28001-17
Sample Volume: 1897.72 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:06

Comments: Q9553144 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0313	SL, U	0.0331
Arsenic	**7440-38-2**	**0.155**		**0.00803**
Barium	**7440-39-3**	**2.62**		**0.917**
Beryllium	**7440-41-7**	**0.0242**		**0.00274**
Cadmium	7440-43-9	0.0227	U	0.0635
Chromium	**7440-47-3**	**2.79**		**1.89**
Cobalt	**7440-48-4**	**0.391**	QB-01	**0.0374**
Copper	**7440-50-8**	**56.8**		**2.25**
Lead	**7439-92-1**	**0.276**		**0.183**
Manganese	**7439-96-5**	**10.2**		**1.62**
Molybdenum	**7439-98-7**	**3.20**		**0.308**
Nickel	**7440-02-0**	**1.32**		**0.559**
Selenium	**7782-49-2**	**0.167**		**0.00768**
Thallium	**7440-28-0**	**0.00150**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0454**
Zinc	7440-66-6	10.8	U	65.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081824-HM
Matrix: Air
Lab ID: 4H28001-18
Sample Volume: 1585.703 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:22

Comments: Q9553143 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0396**
Arsenic	**7440-38-2**	**0.141**		**0.00961**
Barium	**7440-39-3**	**2.24**		**1.10**
Beryllium	**7440-41-7**	**0.00579**		**0.00328**
Cadmium	7440-43-9	0.0110	U	0.0760
Chromium	**7440-47-3**	**2.52**		**2.27**
Cobalt	**7440-48-4**	**0.217**	QB-01	**0.0447**
Copper	**7440-50-8**	**37.5**		**2.70**
Lead	**7439-92-1**	**0.334**		**0.220**
Manganese	**7439-96-5**	**6.46**		**1.94**
Molybdenum	**7439-98-7**	**2.31**		**0.368**
Nickel	**7440-02-0**	**1.16**		**0.669**
Selenium	**7782-49-2**	**0.142**		**0.00919**
Thallium	**7440-28-0**	**0.00129**	QB-04	**6.04E-4**
Vanadium	**7440-62-2**	**0.554**		**0.0543**
Zinc	7440-66-6	12.3	U	78.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081924-HM
Matrix: Air
Lab ID: 4H28001-19
Sample Volume: 1888.861 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:36

Comments: Q9553142 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0332**
Arsenic	**7440-38-2**	**2.98**		**0.00807**
Barium	**7440-39-3**	**8.02**		**0.922**
Beryllium	**7440-41-7**	**0.0251**		**0.00276**
Cadmium	7440-43-9	0.0358	U	0.0638
Chromium	**7440-47-3**	**6.33**		**1.90**
Cobalt	**7440-48-4**	**1.13**	QB-01	**0.0376**
Copper	**7440-50-8**	**294**		**2.27**
Lead	**7439-92-1**	**0.458**		**0.184**
Manganese	**7439-96-5**	**27.5**		**1.63**
Molybdenum	**7439-98-7**	**11.1**		**0.309**
Nickel	**7440-02-0**	**2.87**		**0.562**
Selenium	**7782-49-2**	**0.193**		**0.00772**
Thallium	**7440-28-0**	**0.00202**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**3.45**		**0.0456**
Zinc	7440-66-6	13.7	U	66.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081924-HM
Matrix: Air
Lab ID: 4H28001-20
Sample Volume: 1968.874 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:54

Comments: Q9553141 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0861**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.393**		**0.00774**
Barium	**7440-39-3**	**3.80**		**0.884**
Beryllium	**7440-41-7**	**0.0140**		**0.00264**
Cadmium	7440-43-9	0.0209	U	0.0612
Chromium	**7440-47-3**	**2.43**		**1.83**
Cobalt	**7440-48-4**	**0.407**	QB-01	**0.0360**
Copper	**7440-50-8**	**112**		**2.17**
Lead	**7439-92-1**	**0.926**		**0.177**
Manganese	**7439-96-5**	**12.6**		**1.56**
Molybdenum	**7439-98-7**	**3.56**		**0.297**
Nickel	**7440-02-0**	**1.12**		**0.539**
Selenium	**7782-49-2**	**0.163**		**0.00740**
Thallium	**7440-28-0**	**0.00154**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0437**
Zinc	7440-66-6	14.1	U	63.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081924-HM
Matrix: Air
Lab ID: 4H28001-21
Sample Volume: 1851.547 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:06

Comments: Q9553139 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0448**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.143**		**0.00823**
Barium	**7440-39-3**	**2.68**		**0.940**
Beryllium	**7440-41-7**	**0.0178**		**0.00281**
Cadmium	**7440-43-9**	**0.407**		**0.0651**
Chromium	**7440-47-3**	**2.63**		**1.94**
Cobalt	**7440-48-4**	**0.441**	QB-01	**0.0383**
Copper	**7440-50-8**	**42.8**		**2.31**
Lead	**7439-92-1**	**0.432**		**0.188**
Manganese	**7439-96-5**	**10.4**		**1.66**
Molybdenum	**7439-98-7**	**2.74**		**0.315**
Nickel	**7440-02-0**	**4.64**		**0.573**
Selenium	**7782-49-2**	**0.147**		**0.00787**
Thallium	**7440-28-0**	**0.00157**		**5.18E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0465**
Zinc	7440-66-6	13.8	U	67.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081924-HM
Matrix: Air
Lab ID: 4H28001-22
Sample Volume: 1539.443 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:38

Comments: Q9553137 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0910**	SL	**0.0408**
Arsenic	**7440-38-2**	**0.171**		**0.00990**
Barium	**7440-39-3**	**3.38**		**1.13**
Beryllium	**7440-41-7**	**0.00737**		**0.00338**
Cadmium	7440-43-9	0.0176	U	0.0783
Chromium	**7440-47-3**	**2.39**		**2.34**
Cobalt	**7440-48-4**	**0.263**	QB-01	**0.0461**
Copper	**7440-50-8**	**37.6**		**2.78**
Lead	**7439-92-1**	**0.395**		**0.226**
Manganese	**7439-96-5**	**7.73**		**2.00**
Molybdenum	**7439-98-7**	**2.34**		**0.379**
Nickel	**7440-02-0**	**1.18**		**0.689**
Selenium	**7782-49-2**	**0.132**		**0.00947**
Thallium	**7440-28-0**	**0.00136**		**6.22E-4**
Vanadium	**7440-62-2**	**0.753**		**0.0559**
Zinc	7440-66-6	11.7	U	81.2

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081924-HM
Matrix: Air
Lab ID: 4H28001-23
Sample Volume: 1888.861 m³
Filter ID:
Sampled: 08/19/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:52

Comments: Q9553133 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0108	SL, U	0.0332
Arsenic	7440-38-2	0.00467	U	0.00807
Barium	7440-39-3	0.529	U	0.922
Beryllium	7440-41-7	7.00E-4	U	0.00276
Cadmium	7440-43-9	0.00122	U	0.0638
Chromium	7440-47-3	1.21	U	1.90
Cobalt	7440-48-4	0.0240	QB-01, U	0.0376
Copper	7440-50-8	2.10	U	2.27
Lead	7439-92-1	0.0636	U	0.184
Manganese	7439-96-5	0.249	U	1.63
Molybdenum	7439-98-7	0.294	U	0.309
Nickel	7440-02-0	0.332	U	0.562
Selenium	7782-49-2	0.00195	U	0.00772
Thallium	7440-28-0	1.39E-4	U	5.07E-4
Vanadium	7440-62-2	0.0267	U	0.0456
Zinc	7440-66-6	5.33	U	66.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082024-HM
Matrix: Air
Lab ID: 4H28001-24
Sample Volume: 1967.813 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:06

Comments: Q9553135 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0557**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.865**		**0.00775**
Barium	**7440-39-3**	**6.48**		**0.885**
Beryllium	**7440-41-7**	**0.0257**		**0.00265**
Cadmium	7440-43-9	0.0281	U	0.0613
Chromium	**7440-47-3**	**6.14**		**1.83**
Cobalt	**7440-48-4**	**1.23**	QB-01	**0.0360**
Copper	**7440-50-8**	**299**		**2.17**
Lead	**7439-92-1**	**0.495**		**0.177**
Manganese	**7439-96-5**	**27.9**		**1.56**
Molybdenum	**7439-98-7**	**12.4**		**0.297**
Nickel	**7440-02-0**	**3.72**		**0.539**
Selenium	**7782-49-2**	**0.176**		**0.00741**
Thallium	**7440-28-0**	**0.00140**		**4.87E-4**
Vanadium	**7440-62-2**	**3.62**		**0.0437**
Zinc	7440-66-6	9.56	U	63.5

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FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082024-HM
Matrix: Air
Lab ID: 4H28001-25
Sample Volume: 1939.892 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:24

Comments: Q9553134 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0933**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.330**		**0.00786**
Barium	**7440-39-3**	**4.84**		**0.897**
Beryllium	**7440-41-7**	**0.0166**		**0.00268**
Cadmium	7440-43-9	0.0255	U	0.0621
Chromium	**7440-47-3**	**2.78**		**1.85**
Cobalt	**7440-48-4**	**0.501**	QB-01	**0.0366**
Copper	**7440-50-8**	**152**		**2.21**
Lead	**7439-92-1**	**0.868**		**0.179**
Manganese	**7439-96-5**	**14.4**		**1.59**
Molybdenum	**7439-98-7**	**5.02**		**0.301**
Nickel	**7440-02-0**	**1.47**		**0.547**
Selenium	**7782-49-2**	**0.167**		**0.00751**
Thallium	**7440-28-0**	**0.00108**		**4.94E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0444**
Zinc	7440-66-6	13.7	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082024-HM
Matrix: Air
Lab ID: 4H28001-26
Sample Volume: 1875.848 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:41

Comments: Q9553132 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0429**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.151**		**0.00813**
Barium	**7440-39-3**	**2.66**		**0.928**
Beryllium	**7440-41-7**	**0.0175**		**0.00278**
Cadmium	7440-43-9	0.0261	U	0.0643
Chromium	**7440-47-3**	**2.41**		**1.92**
Cobalt	**7440-48-4**	**0.350**	QB-01	**0.0378**
Copper	**7440-50-8**	**40.6**		**2.28**
Lead	**7439-92-1**	**0.352**		**0.186**
Manganese	**7439-96-5**	**8.89**		**1.64**
Molybdenum	**7439-98-7**	**2.93**		**0.311**
Nickel	**7440-02-0**	**1.34**		**0.566**
Selenium	**7782-49-2**	**0.118**		**0.00777**
Thallium	**7440-28-0**	**8.09E-4**		**5.11E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0459**
Zinc	7440-66-6	11.2	U	66.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082024-HM
Matrix: Air
Lab ID: 4H28001-27
Sample Volume: 1681.619 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:55

Comments: Q9553131 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0816**	SL	**0.0373**
Arsenic	**7440-38-2**	**0.228**		**0.00907**
Barium	**7440-39-3**	**2.90**		**1.04**
Beryllium	**7440-41-7**	**0.0109**		**0.00310**
Cadmium	7440-43-9	0.0374	U	0.0717
Chromium	**7440-47-3**	**4.82**		**2.14**
Cobalt	**7440-48-4**	**0.416**	QB-01	**0.0422**
Copper	**7440-50-8**	**31.4**		**2.54**
Lead	**7439-92-1**	**0.424**		**0.207**
Manganese	**7439-96-5**	**10.8**		**1.83**
Molybdenum	**7439-98-7**	**2.18**		**0.347**
Nickel	**7440-02-0**	**2.38**		**0.631**
Selenium	**7782-49-2**	**0.124**		**0.00867**
Thallium	**7440-28-0**	**8.86E-4**		**5.70E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0512**
Zinc	7440-66-6	11.6	U	74.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082124-HM
Matrix: Air
Lab ID: 4H28001-28
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 11:10

Comments: Q9553130 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.680**		**0.00798**
Barium	**7440-39-3**	**8.67**		**0.911**
Beryllium	**7440-41-7**	**0.0332**		**0.00273**
Cadmium	7440-43-9	0.0218	U	0.0631
Chromium	**7440-47-3**	**6.22**		**1.88**
Cobalt	**7440-48-4**	**1.47**	QB-01	**0.0371**
Copper	**7440-50-8**	**278**		**2.24**
Lead	**7439-92-1**	**0.643**		**0.182**
Manganese	**7439-96-5**	**39.6**		**1.61**
Molybdenum	**7439-98-7**	**10.6**		**0.306**
Nickel	**7440-02-0**	**4.20**		**0.555**
Selenium	**7782-49-2**	**0.289**		**0.00763**
Thallium	**7440-28-0**	**0.00233**		**5.02E-4**
Vanadium	**7440-62-2**	**4.60**		**0.0451**
Zinc	7440-66-6	12.8	U	65.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082124-HM
Matrix: Air
Lab ID: 4H28001-29
Sample Volume: 1954.539 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/27/24 23:09

Comments: Q9553129 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.127**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.383**		**0.00780**
Barium	**7440-39-3**	**5.11**		**0.891**
Beryllium	**7440-41-7**	**0.0157**		**0.00266**
Cadmium	7440-43-9	0.0202	U	0.0617
Chromium	**7440-47-3**	**2.70**		**1.84**
Cobalt	**7440-48-4**	**0.479**	QB-01	**0.0363**
Copper	**7440-50-8**	**136**	QM-4X	**2.19**
Lead	**7439-92-1**	**0.781**		**0.178**
Manganese	**7439-96-5**	**14.8**		**1.57**
Molybdenum	**7439-98-7**	**3.61**	QM-07	**0.299**
Nickel	**7440-02-0**	**1.43**		**0.543**
Selenium	**7782-49-2**	**0.254**		**0.00746**
Thallium	**7440-28-0**	**0.00161**	QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.97**		**0.0440**
Zinc	7440-66-6	14.0	U	63.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082124-HM
Matrix: Air
Lab ID: 4H28001-30
Sample Volume: 1849.226 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 11:26

Comments: Q9553128 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0576**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.231**		**0.00824**
Barium	**7440-39-3**	**4.52**		**0.941**
Beryllium	**7440-41-7**	**0.0385**		**0.00282**
Cadmium	7440-43-9	0.0650	U	0.0652
Chromium	**7440-47-3**	**3.39**		**1.94**
Cobalt	**7440-48-4**	**0.577**	QB-01	**0.0384**
Copper	**7440-50-8**	**47.1**		**2.31**
Lead	**7439-92-1**	**0.613**		**0.188**
Manganese	**7439-96-5**	**14.4**		**1.66**
Molybdenum	**7439-98-7**	**3.46**		**0.316**
Nickel	**7440-02-0**	**2.04**		**0.574**
Selenium	**7782-49-2**	**0.225**		**0.00788**
Thallium	**7440-28-0**	**0.00139**		**5.18E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0465**
Zinc	7440-66-6	14.7	U	67.6

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082124-HM
Matrix: Air
Lab ID: 4H28001-31
Sample Volume: 1779.256 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 12:39

Comments: Q9553127 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.259**		**0.00857**
Barium	**7440-39-3**	**3.38**		**0.978**
Beryllium	**7440-41-7**	**0.0124**		**0.00293**
Cadmium	**7440-43-9**	**0.112**		**0.0678**
Chromium	**7440-47-3**	**2.49**		**2.02**
Cobalt	**7440-48-4**	**0.408**	QB-01	**0.0399**
Copper	**7440-50-8**	**32.1**		**2.40**
Lead	**7439-92-1**	**0.687**		**0.196**
Manganese	**7439-96-5**	**12.6**		**1.73**
Molybdenum	**7439-98-7**	**1.94**		**0.328**
Nickel	**7440-02-0**	**1.34**		**0.596**
Selenium	**7782-49-2**	**0.222**		**0.00819**
Thallium	**7440-28-0**	**0.00148**	QB-04	**5.39E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0484**
Zinc	7440-66-6	11.6	U	70.2

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SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082124-HM
Matrix: Air
Lab ID: 4H28001-32
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 08/21/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 12:57

Comments: Q9553123 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0116	SL, U	0.0329
Arsenic	7440-38-2	0.00553	U	0.00798
Barium	7440-39-3	0.549	U	0.911
Beryllium	7440-41-7	0.00108	U	0.00273
Cadmium	7440-43-9	0.00151	U	0.0631
Chromium	7440-47-3	1.31	U	1.88
Cobalt	7440-48-4	0.0255	QB-01, U	0.0371
Copper	**7440-50-8**	**5.25**	FB-01	**2.24**
Lead	7439-92-1	0.154	U	0.182
Manganese	7439-96-5	0.330	U	1.61
Molybdenum	**7439-98-7**	**0.310**	FB-01	**0.306**
Nickel	7440-02-0	0.391	U	0.555
Selenium	7782-49-2	0.00280	U	0.00763
Thallium	7440-28-0	1.60E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0356	U	0.0451
Zinc	7440-66-6	11.7	U	65.4

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Blank (2408066-CCB1)				Prepared & Analyzed: 08/27/24						
Antimony	0.978		ng/l							
Arsenic	-7.32		ng/l							U
Barium	0.105		ng/l							
Beryllium	-0.639		ng/l							U
Cadmium	-0.0633		ng/l							U
Chromium	-1.18		ng/l							U
Cobalt	-0.0182		ng/l							U
Copper	107		ng/l							
Lead	11.6		ng/l							
Manganese	0.704		ng/l							
Molybdenum	23.7		ng/l							
Nickel	-5.84		ng/l							U
Selenium	6.24		ng/l							
Thallium	1.65		ng/l							QB-04
Vanadium	-40.2		ng/l							U
Zinc	-14.8		ng/l							U
Calibration Blank (2408066-CCB2)				Prepared & Analyzed: 08/27/24						
Antimony	-0.302		ng/l							U
Arsenic	-6.58		ng/l							U
Barium	-0.926		ng/l							U
Beryllium	-0.788		ng/l							U
Cadmium	0.0448		ng/l							
Chromium	-0.483		ng/l							U
Cobalt	-0.455		ng/l							U
Copper	79.8		ng/l							
Lead	2.39		ng/l							
Manganese	-1.02		ng/l							U
Molybdenum	7.89		ng/l							
Nickel	-5.73		ng/l							U
Selenium	7.14		ng/l							
Thallium	1.52		ng/l							QB-04
Vanadium	-37.6		ng/l							U
Zinc	-29.6		ng/l							U
Calibration Blank (2408066-CCB3)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.466		ng/l							
Arsenic	-6.02		ng/l							U
Barium	-0.121		ng/l							U
Beryllium	-0.947		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Blank (2408066-CCB3) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Cadmium	0.0119		ng/l							
Chromium	-0.925		ng/l							U
Cobalt	-0.402		ng/l							U
Copper	91.8		ng/l							
Lead	1.87		ng/l							
Manganese	1.44		ng/l							
Molybdenum	6.67		ng/l							
Nickel	-6.87		ng/l							U
Selenium	9.78		ng/l							
Thallium	1.96		ng/l							QB-04
Vanadium	-38.9		ng/l							U
Zinc	-41.2		ng/l							U
Calibration Blank (2408066-CCB4)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.0659		ng/l							
Arsenic	-5.05		ng/l							U
Barium	1.76		ng/l							
Beryllium	-1.36		ng/l							U
Cadmium	0.277		ng/l							
Chromium	-1.39		ng/l							U
Cobalt	-0.172		ng/l							U
Copper	69.3		ng/l							
Lead	1.70		ng/l							
Manganese	1.46		ng/l							
Molybdenum	4.31		ng/l							
Nickel	-6.69		ng/l							U
Selenium	11.7		ng/l							
Thallium	1.54		ng/l							QB-04
Vanadium	-44.9		ng/l							U
Zinc	-37.9		ng/l							U
Calibration Blank (2408066-CCB5)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	-0.170		ng/l							U
Arsenic	-0.380		ng/l							U
Barium	1.55		ng/l							
Beryllium	-1.58		ng/l							U
Cadmium	-0.160		ng/l							U
Chromium	4.39E-5		ng/l							
Cobalt	0.0752		ng/l							
Copper	69.5		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Blank (2408066-CCB5) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Lead	2.28		ng/l							
Manganese	1.52		ng/l							
Molybdenum	8.34		ng/l							
Nickel	-8.63		ng/l							U
Selenium	14.3		ng/l							
Thallium	1.20		ng/l							
Vanadium	-47.4		ng/l							U
Zinc	-17.7		ng/l							U
Calibration Blank (2408066-CCB6)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.299		ng/l							
Arsenic	-0.0533		ng/l							U
Barium	4.29		ng/l							
Beryllium	-1.38		ng/l							U
Cadmium	0.0193		ng/l							
Chromium	0.566		ng/l							
Cobalt	0.265		ng/l							
Copper	60.9		ng/l							
Lead	2.40		ng/l							
Manganese	3.97		ng/l							
Molybdenum	8.85		ng/l							
Nickel	-7.37		ng/l							U
Selenium	-0.705		ng/l							U
Thallium	1.29		ng/l							
Vanadium	-49.8		ng/l							U
Zinc	-24.4		ng/l							U
Calibration Blank (2408066-CCB7)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.368		ng/l							
Arsenic	-4.39		ng/l							U
Barium	1.58		ng/l							
Beryllium	-1.35		ng/l							U
Cadmium	-0.128		ng/l							U
Chromium	0.730		ng/l							
Cobalt	-0.0308		ng/l							U
Copper	44.3		ng/l							
Lead	2.49		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.65		ng/l							
Nickel	-6.49		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Blank (2408066-CCB7) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Selenium	13.1		ng/l							
Thallium	1.43		ng/l							
Vanadium	-48.4		ng/l							U
Zinc	-15.1		ng/l							U
Calibration Check (2408066-CCV1)				Prepared & Analyzed: 08/27/24						
Antimony	19800		ng/l	20000		99.2	90-110			
Arsenic	19500		ng/l	20000		97.4	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	49500		ng/l	50000		99.1	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.8	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	479000		ng/l	500000		95.7	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	496000		ng/l	500000		99.1	90-110			
Calibration Check (2408066-CCV2)				Prepared & Analyzed: 08/27/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	49200		ng/l	50000		98.3	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	118000		ng/l	120000		98.5	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	458		ng/l	500.00		91.7	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	497000		ng/l	500000		99.3	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Check (2408066-CCV3)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.2	90-110			
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	19700		ng/l	20000		98.4	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.7	90-110			
Lead	194000		ng/l	200000		97.1	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	48400		ng/l	50000		96.8	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	450		ng/l	500.00		90.0	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	491000		ng/l	500000		98.1	90-110			
Calibration Check (2408066-CCV4)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5410		ng/l	5000.0		108	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	466		ng/l	500.00		93.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	502000		ng/l	500000		100	90-110			
Calibration Check (2408066-CCV5)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Check (2408066-CCV5) Contin					Prepared: 08/27/24 Analyzed: 08/28/24					
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408066-CCV6)					Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5360		ng/l	5000.0		107	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	475		ng/l	500.00		95.1	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2408066-CCV7)					Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Calibration Check (2408066-CCV7) Contin					Prepared: 08/27/24 Analyzed: 08/28/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	508000		ng/l	500000		102	90-110			
High Cal Check (2408066-HCV1)					Prepared & Analyzed: 08/27/24					
Antimony	40700		ng/l	40000		102	95-105			
Arsenic	40500		ng/l	40000		101	95-105			
Barium	406000		ng/l	400000		102	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40400		ng/l	40000		101	95-105			
Chromium	487000		ng/l	480000		101	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.01E6		ng/l	4.0000E6		100	95-105			
Lead	407000		ng/l	400000		102	95-105			
Manganese	1.02E6		ng/l	1.0000E6		102	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	41000		ng/l	40000		103	95-105			
Thallium	996		ng/l	1000.0		99.6	95-105			
Vanadium	41000		ng/l	40000		102	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2408066-ICB1)					Prepared & Analyzed: 08/27/24					
Antimony	0.589		ng/l							
Arsenic	-7.31		ng/l							U
Barium	0.279		ng/l							
Beryllium	-0.654		ng/l							U
Cadmium	0.0397		ng/l							
Chromium	-0.324		ng/l							U
Cobalt	-0.219		ng/l							U
Copper	87.3		ng/l							
Lead	6.42		ng/l							
Manganese	4.19		ng/l							
Molybdenum	11.2		ng/l							
Nickel	-4.91		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Initial Cal Blank (2408066-ICB1) Continu				Prepared & Analyzed: 08/27/24						
Selenium	5.65		ng/l							
Thallium	0.950		ng/l							
Vanadium	-37.1		ng/l							U
Zinc	31.3		ng/l							
Initial Cal Check (2408066-ICV1)				Prepared & Analyzed: 08/27/24						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	510		ng/l	500.00		102	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Interference Check A (2408066-IFA1)				Prepared & Analyzed: 08/27/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	316000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408066 - B4H2812										
Interference Check B (2408066-IFB1)				Prepared & Analyzed: 08/27/24						
Antimony	20800		ng/l	20000		104	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	206000		ng/l	200000		103	80-120			
Beryllium	4900		ng/l	5000.0		98.1	80-120			
Cadmium	20100		ng/l	20000		101	80-120			
Chromium	238000		ng/l	240000		99.2	80-120			
Cobalt	50300		ng/l	50000		101	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.5	80-120			
Lead	213000		ng/l	200000		106	80-120			
Manganese	491000		ng/l	500000		98.2	80-120			
Molybdenum	374000		ng/l	350000		107	80-120			
Nickel	117000		ng/l	120000		97.9	80-120			
Selenium	19500		ng/l	20000		97.7	80-120			
Thallium	530		ng/l	500.00		106	80-120			
Vanadium	19200		ng/l	20000		95.8	80-120			
Zinc	472000		ng/l	500000		94.3	80-120			
Batch B4H2812 - ICP-MS Extraction										
Blank (B4H2812-BLK1)				Prepared & Analyzed: 08/27/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							QB-01, U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4H2812-BS1)				Prepared & Analyzed: 08/27/24						
Antimony	0.695	0.0386	ng/m³ Air	1.3829		50.3	80-120			GC-BS, SL
Arsenic	3.51	0.00937	ng/m³ Air	2.7658		127	80-120			GC-BS
Barium	36.6	1.07	ng/m³ Air	27.658		132	80-120			GC-BS

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
LCS (B4H2812-BS1) Continued				Prepared & Analyzed: 08/27/24						
Beryllium	1.76	0.00320	ng/m³ Air	1.3829		127	80-120			GC-BS
Cadmium	1.81	0.0741	ng/m³ Air	1.3829		131	80-120			GC-BS
Chromium	20.1	2.21	ng/m³ Air	13.829		145	80-120			GC-BS
Cobalt	1.73	0.0436	ng/m³ Air	1.3829		125	80-120			GC-BS, QB-01
Copper	36.8	2.63	ng/m³ Air	27.658		133	80-120			GC-BS
Lead	17.8	0.214	ng/m³ Air	13.829		129	80-120			GC-BS
Manganese	10.7	1.89	ng/m³ Air	8.2975		129	80-120			GC-BS
Molybdenum	2.05	0.359	ng/m³ Air	1.3829		148	80-120			GC-BS
Nickel	4.03	0.652	ng/m³ Air	2.7658		146	80-120			GC-BS
Selenium	3.59	0.00896	ng/m³ Air	2.7658		130	80-120			GC-BS
Thallium	0.176	5.89E-4	ng/m³ Air	0.13829		127	80-120			GC-BS, QB-04
Vanadium	3.60	0.0529	ng/m³ Air	2.7658		130	80-120			GC-BS
Zinc	117	76.8	ng/m³ Air	82.975		141	80-120			GC-BS
LCS (B4H2812-BS2)				Prepared & Analyzed: 08/27/24						
Antimony	0.509	0.0386	ng/m³ Air	1.3829		36.8	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.7	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.9	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.5	80-120			QB-01
Copper	28.5	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.36	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.66	0.359	ng/m³ Air	1.3829		120	80-120			
Nickel	3.06	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.2	80-120			QB-04
Vanadium	2.81	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	92.7	76.8	ng/m³ Air	82.975		112	80-120			
Duplicate (B4H2812-DUP1)		**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24						
Antimony	0.109	0.0406	ng/m³ Air		0.134			21.1	10	SL
Arsenic	0.163	0.00984	ng/m³ Air		0.186			13.0	10	
Barium	2.56	1.12	ng/m³ Air		2.91			13.0	10	
Beryllium	0.00855	0.00336	ng/m³ Air		0.00966			12.1	10	
Cadmium	ND	0.0779	ng/m³ Air		ND				10	U
Chromium	6.60	2.32	ng/m³ Air		2.98			75.7	10	
Cobalt	0.377	0.0458	ng/m³ Air		0.363			3.77	10	QB-01

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REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Duplicate (B4H2812-DUP1) Continued			**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24					
Copper	50.4	2.76	ng/m³ Air		56.3			11.0	10	
Lead	0.505	0.225	ng/m³ Air		0.445			12.5	10	
Manganese	9.25	1.99	ng/m³ Air		11.4			21.1	10	
Molybdenum	2.68	0.377	ng/m³ Air		2.98			10.5	10	
Nickel	3.71	0.685	ng/m³ Air		1.71			74.0	10	
Selenium	0.165	0.00941	ng/m³ Air		0.196			17.2	10	
Thallium	0.00125	6.19E-4	ng/m³ Air		0.00158			23.4	10	QB-04
Vanadium	0.963	0.0556	ng/m³ Air		1.02			5.88	10	
Zinc	ND	80.7	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP2)			**Source: 4H28001-29**		Prepared & Analyzed: 08/27/24					
Antimony	0.131	0.0321	ng/m³ Air		0.127			2.82	10	SL
Arsenic	0.405	0.00780	ng/m³ Air		0.383			5.60	10	
Barium	5.17	0.891	ng/m³ Air		5.11			1.31	10	
Beryllium	0.0157	0.00266	ng/m³ Air		0.0157			0.425	10	
Cadmium	ND	0.0617	ng/m³ Air		ND				10	U
Chromium	2.59	1.84	ng/m³ Air		2.70			4.38	10	
Cobalt	0.483	0.0363	ng/m³ Air		0.479			0.793	10	QB-01
Copper	140	2.19	ng/m³ Air		136			3.15	10	
Lead	0.808	0.178	ng/m³ Air		0.781			3.36	10	
Manganese	14.8	1.57	ng/m³ Air		14.8			0.391	10	
Molybdenum	3.75	0.299	ng/m³ Air		3.61			3.97	10	
Nickel	1.45	0.543	ng/m³ Air		1.43			1.80	10	
Selenium	0.244	0.00746	ng/m³ Air		0.254			3.99	10	
Thallium	0.00151	4.90E-4	ng/m³ Air		0.00161			6.49	10	QB-04
Vanadium	1.99	0.0440	ng/m³ Air		1.97			0.912	10	
Zinc	ND	63.9	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP3)			**Source: 4H28001-15**		Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	0.0794	0.0329	ng/m³ Air		0.0780			1.83	10	SL
Arsenic	1.54	0.00800	ng/m³ Air		1.54			0.204	10	
Barium	3.72	0.913	ng/m³ Air		3.71			0.254	10	
Beryllium	0.0115	0.00273	ng/m³ Air		0.0115			0.406	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	3.27	1.89	ng/m³ Air		3.26			0.162	10	
Cobalt	0.459	0.0372	ng/m³ Air		0.459			0.00468	10	QB-01
Copper	281	2.24	ng/m³ Air		281			0.195	10	
Lead	0.257	0.183	ng/m³ Air		0.256			0.495	10	
Manganese	12.6	1.61	ng/m³ Air		12.6			0.0771	10	
Molybdenum	10.9	0.306	ng/m³ Air		10.9			0.0383	10	

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FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Duplicate (B4H2812-DUP3) Continued		**Source: 4H28001-15**		Prepared: 08/27/24 Analyzed: 08/28/24						
Nickel	1.28	0.557	ng/m³ Air		1.27			0.669	10	
Selenium	0.163	0.00765	ng/m³ Air		0.175			7.08	10	
Thallium	0.00147	5.03E-4	ng/m³ Air		0.00148			0.533	10	QB-04
Vanadium	1.50	0.0452	ng/m³ Air		1.50			0.151	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP4)		**Source: 4H28001-21**		Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.0455	0.0339	ng/m³ Air		0.0448			1.46	10	SL
Arsenic	0.141	0.00823	ng/m³ Air		0.143			1.87	10	
Barium	2.72	0.940	ng/m³ Air		2.68			1.58	10	
Beryllium	0.0167	0.00281	ng/m³ Air		0.0178			6.51	10	
Cadmium	0.417	0.0651	ng/m³ Air		0.407			2.35	10	
Chromium	2.66	1.94	ng/m³ Air		2.63			0.851	10	
Cobalt	0.448	0.0383	ng/m³ Air		0.441			1.68	10	QB-01
Copper	43.5	2.31	ng/m³ Air		42.8			1.48	10	
Lead	0.435	0.188	ng/m³ Air		0.432			0.763	10	
Manganese	10.6	1.66	ng/m³ Air		10.4			1.64	10	
Molybdenum	2.81	0.315	ng/m³ Air		2.74			2.65	10	
Nickel	4.70	0.573	ng/m³ Air		4.64			1.29	10	
Selenium	0.155	0.00787	ng/m³ Air		0.147			5.69	10	
Thallium	0.00150	5.18E-4	ng/m³ Air		0.00157			4.57	10	
Vanadium	0.960	0.0465	ng/m³ Air		0.953			0.717	10	
Zinc	ND	67.5	ng/m³ Air		ND				10	U
Matrix Spike (B4H2812-MS1)		**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24						
Antimony	0.850	0.0406	ng/m³ Air	1.4530	0.134	49.3	80-120			SL
Arsenic	2.98	0.00984	ng/m³ Air	2.9060	0.186	96.1	80-120			
Barium	31.6	1.12	ng/m³ Air	29.060	2.91	98.7	80-120			
Beryllium	1.44	0.00336	ng/m³ Air	1.4530	0.00966	98.4	80-120			
Cadmium	1.45	0.0779	ng/m³ Air	1.4530	ND	99.7	80-120			
Chromium	16.9	2.32	ng/m³ Air	14.530	2.98	95.8	80-120			
Cobalt	1.69	0.0458	ng/m³ Air	1.4530	0.363	91.6	80-120			QB-01
Copper	78.5	2.76	ng/m³ Air	29.060	56.3	76.3	80-120			QM-07
Lead	14.9	0.225	ng/m³ Air	14.530	0.445	99.5	80-120			
Manganese	18.3	1.99	ng/m³ Air	8.7180	11.4	79.2	80-120			QM-07
Molybdenum	3.85	0.377	ng/m³ Air	1.4530	2.98	60.3	80-120			QM-07
Nickel	4.00	0.685	ng/m³ Air	2.9060	1.71	79.1	80-120			QM-07
Selenium	3.03	0.00941	ng/m³ Air	2.9060	0.196	97.5	80-120			
Thallium	0.141	6.19E-4	ng/m³ Air	0.14530	0.00158	96.1	80-120			QB-04
Vanadium	3.86	0.0556	ng/m³ Air	2.9060	1.02	97.8	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Matrix Spike (B4H2812-MS1) Continued Source: 4H28001-09 Prepared & Analyzed: 08/27/24										
Zinc	102	80.7	ng/m³ Air	87.180	ND	117	80-120			
Matrix Spike (B4H2812-MS2) Source: 4H28001-29 Prepared & Analyzed: 08/27/24										
Antimony	0.697	0.0321	ng/m³ Air	1.1512	0.127	49.5	80-120			SL
Arsenic	2.61	0.00780	ng/m³ Air	2.3023	0.383	96.7	80-120			
Barium	28.4	0.891	ng/m³ Air	23.023	5.11	101	80-120			
Beryllium	1.16	0.00266	ng/m³ Air	1.1512	0.0157	99.8	80-120			
Cadmium	1.17	0.0617	ng/m³ Air	1.1512	ND	101	80-120			
Chromium	13.9	1.84	ng/m³ Air	11.512	2.70	97.4	80-120			
Cobalt	1.56	0.0363	ng/m³ Air	1.1512	0.479	93.6	80-120			QB-01
Copper	162	2.19	ng/m³ Air	23.023	136	115	80-120			
Lead	12.5	0.178	ng/m³ Air	11.512	0.781	102	80-120			
Manganese	21.0	1.57	ng/m³ Air	6.9070	14.8	90.7	80-120			
Molybdenum	4.89	0.299	ng/m³ Air	1.1512	3.61	112	80-120			
Nickel	3.66	0.543	ng/m³ Air	2.3023	1.43	97.2	80-120			
Selenium	2.47	0.00746	ng/m³ Air	2.3023	0.254	96.2	80-120			
Thallium	0.107	4.90E-4	ng/m³ Air	0.11512	0.00161	91.5	80-120			QB-04
Vanadium	4.17	0.0440	ng/m³ Air	2.3023	1.97	95.8	80-120			
Zinc	82.4	63.9	ng/m³ Air	69.070	ND	119	80-120			
Matrix Spike Dup (B4H2812-MSD1) Source: 4H28001-09 Prepared & Analyzed: 08/27/24										
Antimony	0.830	0.0406	ng/m³ Air	1.4530	0.134	47.9	80-120	2.44	20	SL
Arsenic	2.96	0.00984	ng/m³ Air	2.9060	0.186	95.4	80-120	0.685	20	
Barium	31.3	1.12	ng/m³ Air	29.060	2.91	97.6	80-120	0.941	20	
Beryllium	1.49	0.00336	ng/m³ Air	1.4530	0.00966	102	80-120	3.71	20	
Cadmium	1.45	0.0779	ng/m³ Air	1.4530	ND	100	80-120	0.383	20	
Chromium	16.7	2.32	ng/m³ Air	14.530	2.98	94.6	80-120	1.03	20	
Cobalt	1.67	0.0458	ng/m³ Air	1.4530	0.363	90.0	80-120	1.35	20	QB-01
Copper	72.6	2.76	ng/m³ Air	29.060	56.3	56.2	80-120	7.75	20	QM-07
Lead	14.8	0.225	ng/m³ Air	14.530	0.445	98.9	80-120	0.594	20	
Manganese	17.4	1.99	ng/m³ Air	8.7180	11.4	68.2	80-120	5.38	20	QM-07
Molybdenum	3.53	0.377	ng/m³ Air	1.4530	2.98	38.3	80-120	8.63	20	QM-07
Nickel	3.87	0.685	ng/m³ Air	2.9060	1.71	74.5	80-120	3.36	20	QM-07
Selenium	2.96	0.00941	ng/m³ Air	2.9060	0.196	95.0	80-120	2.36	20	
Thallium	0.140	6.19E-4	ng/m³ Air	0.14530	0.00158	95.3	80-120	0.774	20	QB-04
Vanadium	3.75	0.0556	ng/m³ Air	2.9060	1.02	93.8	80-120	3.12	20	
Zinc	96.2	80.7	ng/m³ Air	87.180	ND	110	80-120	6.02	20	
Matrix Spike Dup (B4H2812-MSD2) Source: 4H28001-29 Prepared: 08/27/24 Analyzed: 08/28/24										
Antimony	0.661	0.0321	ng/m³ Air	1.1512	0.127	46.4	80-120	5.34	20	SL
Arsenic	2.60	0.00780	ng/m³ Air	2.3023	0.383	96.1	80-120	0.521	20	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Matrix Spike Dup (B4H2812-MSD2) Conti				**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24		
Barium	27.6	0.891	ng/m³ Air	23.023	5.11	97.9	80-120	2.84	20	
Beryllium	1.13	0.00266	ng/m³ Air	1.1512	0.0157	96.4	80-120	3.38	20	
Cadmium	1.13	0.0617	ng/m³ Air	1.1512	ND	98.5	80-120	2.83	20	
Chromium	13.6	1.84	ng/m³ Air	11.512	2.70	94.6	80-120	2.33	20	
Cobalt	1.55	0.0363	ng/m³ Air	1.1512	0.479	93.1	80-120	0.354	20	QB-01
Copper	174	2.19	ng/m³ Air	23.023	136	166	80-120	7.06	20	QM-4X
Lead	12.2	0.178	ng/m³ Air	11.512	0.781	99.1	80-120	2.34	20	
Manganese	20.6	1.57	ng/m³ Air	6.9070	14.8	83.7	80-120	2.33	20	
Molybdenum	5.07	0.299	ng/m³ Air	1.1512	3.61	127	80-120	3.51	20	QM-07
Nickel	3.62	0.543	ng/m³ Air	2.3023	1.43	95.2	80-120	1.25	20	
Selenium	2.45	0.00746	ng/m³ Air	2.3023	0.254	95.3	80-120	0.856	20	
Thallium	0.107	4.90E-4	ng/m³ Air	0.11512	0.00161	91.6	80-120	0.148	20	QB-04
Vanadium	4.10	0.0440	ng/m³ Air	2.3023	1.97	92.6	80-120	1.78	20	
Zinc	80.1	63.9	ng/m³ Air	69.070	ND	116	80-120	2.80	20	
Post Spike (B4H2812-PS1)				**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24				
Antimony	0.414	0.0406	ng/m³ Air	0.29060	0.134	96.4	75-125			SL
Arsenic	1.56	0.00984	ng/m³ Air	1.4530	0.186	94.4	75-125			
Barium	5.68	1.12	ng/m³ Air	2.9060	2.91	95.1	75-125			
Beryllium	0.299	0.00336	ng/m³ Air	0.29060	0.00966	99.5	75-125			
Cadmium	0.164	0.0779	ng/m³ Air	0.14530	ND	113	75-125			
Chromium	4.30	2.32	ng/m³ Air	1.4530	2.98	91.4	75-125			
Cobalt	0.629	0.0458	ng/m³ Air	0.29060	0.363	91.7	75-125			QB-01
Copper	70.3	2.76	ng/m³ Air	14.530	56.3	96.2	75-125			
Lead	29.6	0.225	ng/m³ Air	29.060	0.445	100	75-125			
Manganese	13.9	1.99	ng/m³ Air	2.9060	11.4	86.5	75-125			
Molybdenum	4.30	0.377	ng/m³ Air	1.4530	2.98	91.3	75-125			
Nickel	4.53	0.685	ng/m³ Air	2.9060	1.71	97.2	75-125			
Selenium	1.64	0.00941	ng/m³ Air	1.4530	0.196	99.0	75-125			
Thallium	0.0711	6.19E-4	ng/m³ Air	7.2650E-2	0.00158	95.7	75-125			QB-04
Vanadium	2.37	0.0556	ng/m³ Air	1.4530	1.02	93.2	75-125			
Zinc	ND	80.7	ng/m³ Air	29.060	ND		75-125			U
Post Spike (B4H2812-PS2)				**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24		
Antimony	0.357	0.0321	ng/m³ Air	0.23023	0.127	100	75-125			SL
Arsenic	1.47	0.00780	ng/m³ Air	1.1512	0.383	94.5	75-125			
Barium	7.41	0.891	ng/m³ Air	2.3023	5.11	100	75-125			
Beryllium	0.250	0.00266	ng/m³ Air	0.23023	0.0157	102	75-125			
Cadmium	0.135	0.0617	ng/m³ Air	0.11512	ND	117	75-125			
Chromium	3.79	1.84	ng/m³ Air	1.1512	2.70	94.0	75-125			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Post Spike (B4H2812-PS2) Continued			**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24			
Cobalt	0.706	0.0363	ng/m³ Air	0.23023	0.479	98.4	75-125			QB-01
Copper	148	2.19	ng/m³ Air	11.512	136	105	75-125			
Lead	24.2	0.178	ng/m³ Air	23.023	0.781	102	75-125			
Manganese	16.9	1.57	ng/m³ Air	2.3023	14.8	90.7	75-125			
Molybdenum	4.73	0.299	ng/m³ Air	1.1512	3.61	97.4	75-125			
Nickel	3.72	0.543	ng/m³ Air	2.3023	1.43	99.5	75-125			
Selenium	1.39	0.00746	ng/m³ Air	1.1512	0.254	98.4	75-125			
Thallium	0.0553	4.90E-4	ng/m³ Air	5.7558E-2	0.00161	93.3	75-125			QB-04
Vanadium	3.03	0.0440	ng/m³ Air	1.1512	1.97	92.0	75-125			
Zinc	ND	63.9	ng/m³ Air	23.023	ND		75-125			U
Dilution Check (B4H2812-SRL1)			**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24					
Antimony	0.135	0.0406	ng/m³ Air		0.134			0.559	10	SL
Arsenic	0.179	0.00984	ng/m³ Air		0.186			3.81	10	
Barium	2.89	1.12	ng/m³ Air		2.91			0.743	10	
Beryllium	0.00855	0.00336	ng/m³ Air		0.00966			12.2	10	
Cadmium	ND	0.0779	ng/m³ Air		ND				10	U
Chromium	2.97	2.32	ng/m³ Air		2.98			0.192	10	
Cobalt	0.359	0.0458	ng/m³ Air		0.363			1.02	10	QB-01
Copper	57.1	2.76	ng/m³ Air		56.3			1.38	10	
Lead	0.431	0.225	ng/m³ Air		0.445			3.23	10	
Manganese	11.6	1.99	ng/m³ Air		11.4			1.59	10	
Molybdenum	2.91	0.377	ng/m³ Air		2.98			2.36	10	
Nickel	1.70	0.685	ng/m³ Air		1.71			0.577	10	
Selenium	0.206	0.00941	ng/m³ Air		0.196			4.79	10	
Thallium	0.00379	6.19E-4	ng/m³ Air		0.00158			82.0	10	QB-04
Vanadium	0.992	0.0556	ng/m³ Air		1.02			2.84	10	
Zinc	ND	80.7	ng/m³ Air		ND				10	U
Dilution Check (B4H2812-SRL2)			**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24			
Antimony	0.125	0.0321	ng/m³ Air		0.127			1.62	10	SL
Arsenic	0.378	0.00780	ng/m³ Air		0.383			1.30	10	
Barium	5.13	0.891	ng/m³ Air		5.11			0.490	10	
Beryllium	0.0144	0.00266	ng/m³ Air		0.0157			8.07	10	
Cadmium	ND	0.0617	ng/m³ Air		ND				10	U
Chromium	2.72	1.84	ng/m³ Air		2.70			0.544	10	
Cobalt	0.482	0.0363	ng/m³ Air		0.479			0.662	10	QB-01
Copper	137	2.19	ng/m³ Air		136			0.701	10	
Lead	0.763	0.178	ng/m³ Air		0.781			2.38	10	
Manganese	15.1	1.57	ng/m³ Air		14.8			2.29	10	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H2812 - ICP-MS Extraction										
Dilution Check (B4H2812-SRL2) ContinueSource: 4H28001-29 Prepared: 08/27/24 Analyzed: 08/28/24										
Molybdenum	3.64	0.299	ng/m³ Air		3.61			0.803	10	
Nickel	1.44	0.543	ng/m³ Air		1.43			0.564	10	
Selenium	0.267	0.00746	ng/m³ Air		0.254			4.99	10	
Thallium	0.00557	4.90E-4	ng/m³ Air		0.00161			110	10	QB-04
Vanadium	1.94	0.0440	ng/m³ Air		1.97			1.42	10	
Zinc	ND	63.9	ng/m³ Air		ND				10	U

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REPORTED: 09/04/24 13:09
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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/04/2024 and Shanna Vasser 09/04/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/15/2024 – 08/21/2024
Report No: 4H28001

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM02-081524-HM was listed on the CoC, but crossed off, voided (due to run time uncertainty) and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.
13. Field blank detections above the method detection limit were reported for copper and molybdenum in MFL-FB01-082124-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

August 22 through August 28, 2024
[Report Updated: October 18, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires.

At the request of the State of Hawaii Department of Health, Clean Air Branch (HDOH), two air monitoring and sampling stations were moved to better encompass the active work area. To accommodate a change in removal activities from residential to commercial, and to close any gaps in sampling between the previous stations, HDOH presented two additional locations. The monitoring and sampling stations previously located at Leialii Hawaiian Homelands (AM-01) was relocated August 23 to Opukea Townhomes (AM-05). The station previously located at Lahaina Boys & Girls Club (AM-04) was relocated on August 24 to Lahaina Skate Park (AM-06). Particulate monitoring and air sampling occurred from August 22 through August 28, 2024, on the dates and at the community locations listed below and shown on **Figure 1**:

Community Location	Location ID	Dates
Leialii Hawaiian Homelands	AM-01	8/22/2024-8/23/2024
WW Pump Station #4	AM-02	8/22/2024-8/28/2024
Lahaina Intermediate School	AM-03	8/22/2024-8/28/2024
Lahaina Boys & Girls Club	AM-04	8/22/2024-8/24/2024
Opukea Townhomes	AM-05	8/23/2024-8/28/2024
Lahaina Skate Park	AM-06	8/24/2024-8/28/2024

The CAMSP addressed ambient community air monitoring and sampling that would be performed to assess conditions and determine whether debris removal activities, (managed by the U.S. Army Corps of Engineers (USACE), and private contractors) significantly impacted air quality in Lahaina. Data collected was made available to HDOH through an online shared site and by the information presented in weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 22 through August 28 at the community locations and dates listed above. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the six monitoring locations throughout this reporting period. Monitoring was conducted for 24 hours a day at each station with the exceptions of periods when sampling locations were relocated, and during instances of equipment faults, as described below:

- On August 23, the air monitoring and sampling station located at Leialii Hawaiian Homelands (Location ID AM-01) was relocated to Opukea Townhomes (Location ID AM-05). As a result of the time needed for station teardown and set up, only 10 hours of monitoring was conducted at Leialii Hawaiian Homelands and 12 hours of monitoring was conducted at Opukea Townhomes on August 23.
- On August 24, the air monitoring and sampling station located at Lahaina Boys & Girls Club (Location ID AM-04) was relocated to Lahaina Skate Park (Location ID AM-06). As a result of the time needed for station teardown and set up, only 8 hours of monitoring was conducted at Lahaina Boys & Girls Club and 14 hours of monitoring at Lahaina Skate Park on August 24.
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On August 24, air monitoring was conducted at WW Pump Station #4 for 21 hours
    - On August 25, air monitoring was conducted at WW Pump Station #4 for 23 hours.
    - On August 25, air monitoring was conducted at Opukea Townhomes for 23 hours.
    - On August 27, air monitoring was conducted at Lahaina Skate Park for 21 hours.

The equipment fault code at Opukea Townhomes, WW Pump Station #4, and Lahaina Skate Park were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption causes the run to not have gone long enough to have a calculated value available for that hour.

The PM_{10} monitoring results were found to have exceeded the screening level at Lahaina Skate Park on August 24 through August 28 and at Lahaina Intermediate School on August 25 as shown in **Table 1**.

The air monitoring and sampling station at Lahaina Skate Park was deployed on August 24, with the station located approximately 55 feet east of the highway. Tetra Tech observed county crews working approximately 300 yards north of the monitoring station at the aquatic center. Tetra Tech observed county crews conducting activities including breaking up concrete and working in the pool area. The county workers were observed applying water as a dust suppression although dust was still visibly observed originating from the site. Elevated particulate readings occurred during the 19:00 through 20:00 time blocks. Field observations are not available because the timeframe of these readings was outside of normal working hours. It is unlikely that the readings were related to USACE operations or county crew activities because debris removal operations were not being conducted at those times. Exceedances could have been attributable to the proximity to the nearby highway.

On August 25 at the Lahaina Skate Park, consistent elevated readings occurred throughout the day in the early morning and late-night hours. No USACE debris crews were observed working in the area on August 25. Increased winds from Hurricane Hone were observed on August 25, creating a dust plume originating from the work area at the aquatic center. Elevated particulate readings occurred during the 02:00 through 05:00, 07:00, 15:00 through 16:00 and 20:00 through 23:00 time blocks. Field observations are not available because the timeframe of these readings was outside of normal working hours. It is unlikely that the readings were related to USACE operations or county crew activities

because debris removal operations were not being conducted at those times. The exceedance could have been attributed to the increased winds caused by Hurricane Hone.

Winds at Lahaina Intermediate School on August 25 averaged about 1.5 miles per hour (mph) with gusts reaching 8.5 mph throughout the day as Hurricane Hone passed through the south of Maui. USACE operations did not contribute to elevated PM_{10} concentrations as no debris crews were working and visible dust was not observed in the area during this time. The exceedance is most likely attributed to the increased winds caused by Hurricane Hone.

On August 26 at Lahaina Skate Park, elevated particulate readings occurred during the 06:00 through 07:00, 13:00, and 19:00 through 22:00 time blocks. With the exception of the 13:00 time blocks, field observations are not available because the timeframe of these readings was outside of normal working hours. No activities were observed near the station during the station check at 13:20. It is unlikely that the readings were related to USACE operations or county crew activities because debris removal operations were not being conducted at those times. No USACE debris crews were observed working in the area on August 26. Exceedances could have been attributable to the proximity to the nearby highway.

On August 27 at Lahaina Skate Park, elevated particulate readings occurred during the 12:00 through 13:00 and 18:00 through 23:00 time blocks. With the exception of the 12:00 and 13:00 time blocks, field observations are not available because the timeframe of these readings was outside of normal working hours. No activities were observed near the station during the station check at 13:30. It is unlikely that the readings were related to USACE operations or county crew activities because debris removal operations were not being conducted at those times. No USACE debris crews were observed working in the area on August 27. Exceedances could have been attributable to the proximity to the nearby highway.

On August 28 at the Lahaina Skate Park, Tetra Tech observed a county crew conducting activities near the monitoring station including breaking up concrete at the aquatic center. Visible dust was observed originating from the county crew activities with no dust suppression methods being used. Elevated particulate readings occurred during the 00:00, 02:00 through 03:00, 5:00 through 08:00 and 19:00 through 23:00 time blocks. With the exception of the 07:00 and 08:00 time blocks, field observations are not available because the timeframe of these readings was outside of normal working hours. No activities were observed near the station during the station check at 07:30. It is unlikely that the readings were related to USACE operations or county crew activities because debris removal operations were not being conducted at those times. Exceedances could have been attributable to the proximity to the nearby highway.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results were below the SSAL of 0.003 structures per cubic centimeter (s/cc) and below the laboratory's analytical sensitivity (see **Table 2**).

The heavy metal sample collected on August 25, 2024 from Opukea Townhomes showed an exceedance of manganese with a concentration of 0.165 $\mu g/m^3$ (as compared to the SSAL of 0.12 $\mu g/m^3$) and an exceedance of nickel with a concentration of 0.0253 $\mu g/m^3$ (SSAL 0.02 $\mu g/m^3$). These results were obtained from a single sample that was collected over an approximate 24-hour sampling period between August 24 and August 25, 2024. On these dates, Hurricane Hone was approaching the area to the south of Maui. The average windspeed at this location during the sampling period was 2.4 mph with gusts up to 12.3 mph, and generally originating from a southeast direction.

USACE debris crews were observed working throughout the burn zone on August 24, however no debris crews were within sight of Opukea Townhomes. Field teams observed visible dust all around Lahaina

during that day as a result of increased winds from the approaching hurricane. On August 25, Hurricane Hone was passing south of Maui. No debris crews were observed working on this day. Weather conditions were windy and rainy on that day, and field crews did not record any observations of visible dust. General environmental factors which may have caused or contributed to the manganese exceedance include use of fuel additives or paints, the application of pesticides or fertilizers, or operations that may have been performed by others such as grinding/cutting metal construction materials. General contributing factors which may have caused or contributed to the nickel exceedance include grinding/cutting any metal construction materials, use of fertilizers, burning of waste, and tobacco smoke.

The heavy metal sample collected on August 25, 2024, from WW Pump Station #4 showed an exceedance of manganese with a concentration of 0.123 $\mu g/m^3$ (above the SSAL of 0.12 $\mu g/m^3$). This sample was collected over an approximate 24-hour sampling period between August 24 and August 25, 2024. As previously discussed, Hurricane Hone was approaching the area to the south of Maui. The average windspeed at this location during the sampling period was 2.3 mph with gusts up to 7.5 mph, and generally originating from a south-southeast direction. USACE debris crews were observed working throughout the burn zone on August 24, however no debris crews were within sight of WW Pump Station #4. Field teams observed visible dust all around Lahaina during the day as a result of increased winds from the approaching hurricane. On August 25, Hurricane Hone was passing south of Maui. No debris crews were observed working on this day. Weather conditions were windy and rainy on that day, and field crews did not record any observations of visible dust.

The heavy metal sample collected on August 23, 2024, from WW Pump Station #4 was voided due to equipment pump malfunction resulting in insufficient sample duration and sample volume.

The monitoring stations located at Opukea Townhomes and WW Pumps Station #4 are located north of the burn zone. Given their location relative to the burn zone and the southerly originating winds from Hurricane Hone, these stations were likely more impacted than the stations located at Lahaina Skate Park and Lahaina intermediate School. Based on the increased winds caused by Hurricane Hone and field observations indicating no debris crews working within sight of the community monitoring stations on August 24 and August 25, it is likely that the nickel and manganese exceedances were not attributable to active USACE debris removal activities. For all other heavy metals, low levels, below the respective SSALs, were detected in ambient air samples at all community sampling locations (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a south-southeast direction. Hurricane Hone was approaching Maui on August 24, passed to the south of Maui on August 25 and had fully cleared Maui on the 26. As a result of the Hurricane, winds gusts reached up to 12.3 mph on August 25. Please note given the lack of sustained high winds the overall weekly average and the daily averages while Hurricane Hone was in the area August 24 through 26 remained relatively low. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 “Calibration of Air Sampling Pump” 073-3 “Air Quality Monitoring” and EPA Environmental Response Team (ERT) SOPs 2008 “General Air Monitoring and Sampling Guidelines” and 2015 “Asbestos Air Sampling," which were included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- ASTM SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler.

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024- 4, “Recording of Notes in Field Logbook.”

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 22 through August 28, 2024
[Report Updated: October 18, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/22/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Boys & Girls Club (AM-04)	19
8/23/2024	Leialii Hawaiian Homelands (AM-01)	4.4*
	WW Pump Station #4 (AM-02)	4.6
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	13
	Opukea Townhomes (AM-05)	8.4*
8/24/2024	Opukea Townhomes (AM-05)	36
	WW Pump Station #4 (AM-02)	20***
	Lahaina Intermediate School (AM-03)	42
	Lahaina Boys & Girls Club (AM-04)	9.1**
	Lahaina Skate Park (AM-06)	243**
8/25/2024	Opukea Townhomes (AM-05)	8.3***
	WW Pump Station #4 (AM-02)	8.8***
	Lahaina Intermediate School (AM-03)	264
	Lahaina Skate Park (AM-06)	321
8/26/2024	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Skate Park (AM-06)	240
8/27/2024	Opukea Townhomes (AM-05)	8.9
	WW Pump Station #4 (AM-02)	9.7
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Skate Park (AM-06)	236***
8/28/2024	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Skate Park (AM-06)	220

Notes:

$\mu g/m^3$ = micrograms per cubic meter

TWA = 24 Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

*Data provided for the Leialii Hawaiian Homelands and Opukea Townhomes locations were from reduced TWA calculations because the monitoring period was interrupted because the stations were relocated to a new site

**Data provided from Lahaina Boys & Girls Club and Lahaina Skate Park locations were from reduced TWA calculations because the monitoring period was interrupted because the stations were relocated to a new site

***Data provided were from a reduced TWA calculation because of an equipment fault code which resulted in the sample duration being less than one hour

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 22 through August 28, 2024
[Report Updated: October 18, 2024]

Shaded entries indicate TWA screening level exceedances

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 22 through August 28, 2024
[Report Updated: October 18, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
8/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000501	0.000774	0.00790	0.0000369	ND	0.00591	0.00140	0.278	0.000695	0.0429	0.0107	0.00307	0.000297	0.00000229	0.00461	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000128	0.000641	0.00846	0.0000289	0.000139	0.00444	0.00114	0.163	0.00409	0.0330	0.00266	0.00244	0.000294	0.00000189	0.00362	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000421	0.000229	0.00295	0.0000276	ND	0.00273	0.000460	0.0355	0.000357	0.0119	0.00248	0.00117	0.000161	0.000000825	0.00125	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000678	0.000184	0.00499	0.00000980	ND	0.00234	0.000336	0.0285	0.000310	0.0104	0.00152	0.00106	0.000149	0.000000660	0.00101	ND
8/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000101	0.00192	0.00879	0.0000291	ND	0.00652	0.00130	0.269	0.000556	0.0326	0.00874	0.00324	0.000252	0.00000176	0.00376	ND
	WW Pump Station #4 (AM-02)	<0.0024																
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000524	0.000220	0.00379	0.0000269	ND	0.00366	0.000570	0.0498	0.000433	0.0142	0.00315	0.00159	0.000180	0.000000921	0.00149	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000619	0.000263	0.00376	0.0000130	ND	0.00366	0.000464	0.0252	0.000452	0.0126	0.00164	0.00136	0.000175	0.000000735	0.00123	ND
8/24/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000710	0.000561	0.00717	0.0000285	ND	0.00607	0.00141	0.0689	0.000866	0.0318	0.00247	0.00463	0.000260	0.00000181	0.00355	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000117	0.000601	0.00870	0.0000418	ND	0.00535	0.00115	0.0575	0.00205	0.0332	0.00318	0.00316	0.000280	0.00000207	0.00366	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000166	0.00252	0.0000162	ND	0.00289	0.000415	0.0413	0.000362	0.00971	0.00220	0.00131	0.000138	0.000000855	0.00105	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0001050	0.000160	0.00318	0.00000808	ND	0.00801	0.000324	0.0313	0.000439	0.00822	0.00225	0.00280	0.000172	0.00000124	0.000734	ND
8/25/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000782	0.00178	0.0308	0.000147	0.000301	0.0271	0.00775	0.0607	0.00237	**0.165**	0.00127	**0.0253**	0.000617	0.00000618	0.0195	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000181	0.00222	0.0307	0.000131	0.000244	0.0155	0.00409	0.0943	0.00987	**0.123**	0.00230	0.00952	0.000615	0.00000511	0.0139	0.0966
	Lahaina Intermediate School (AM-03)	<0.0027	ND	0.000241	0.00422	0.0000400	0.000129	0.00534	0.00107	0.0600	0.000417	0.0253	0.00315	0.00384	0.000208	0.00000151	0.00220	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000168	0.00112	0.0107	0.0000557	ND	0.0104	0.00224	0.0275	0.00292	0.0581	0.00141	0.00520	0.000328	0.00000284	0.00526	ND
8/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000644	0.000347	0.00370	0.00000399	ND	0.00226	0.000158	0.0640	0.000505	0.00355	0.00252	0.000756	0.000195	0.00000129	0.000400	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000792	0.000570	0.00425	0.00000532	ND	0.00199	0.000178	0.0454	0.000468	0.00510	0.00398	0.000664	0.000196	0.00000135	0.000580	ND
	Lahaina Intermediate School (AM-03)	<0.0030	ND	0.000138	0.00183	0.0000137	ND	0.00235	0.000203	0.0905	0.000199	0.00495	0.00380	0.00123	0.000171	0.00000129	0.000443	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000109	0.000261	0.00309	0.00000543	ND	0.00217	0.000165	0.0355	0.000535	0.00457	0.00189	0.000816	0.000153	0.00000127	0.000448	ND
8/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000549	0.000221	0.00264	0.00000585	ND	0.00302	0.000235	0.0693	0.000468	0.00547	0.00204	0.00138	0.000203	0.00000762	0.000664	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000107	0.000316	0.00445	0.00000962	0.0000742	0.00236	0.000302	0.0389	0.000716	0.00870	0.00288	0.00111	0.000251	0.00000784	0.00102	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000339	0.000167	0.00235	0.0000166	ND	0.00243	0.000292	0.0756	0.000333	0.00678	0.00338	0.00103	0.000206	0.00000730	0.000843	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000106	0.000204	0.00947	0.00000671	ND	0.00276	0.000219	0.0371	0.000675	0.00567	0.00194	0.000991	0.000179	0.00000611	0.000762	ND
8/28/2024	Opukea Townhomes (AM-05)	<0.0024	0.000143	0.000578	0.00602	0.0000158	ND	0.00322	0.000558	0.0927	0.00116	0.0167	0.00271	0.00184	0.000249	0.00000565	0.00203	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000118	0.000329	0.00521	0.0000122	ND	0.00252	0.000441	0.0496	0.000930	0.0123	0.00401	0.00146	0.000247	0.00000513	0.00169	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000770	0.000312	0.00315	0.0000177	ND	0.00279	0.000415	0.0712	0.000367	0.00991	0.00252	0.00144	0.000162	0.00000365	0.00117	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000245	0.000325	0.00738	0.0000102	ND	0.00634	0.000455	0.0764	0.000918	0.0118	0.00228	0.00489	0.000204	0.00000458	0.00115	ND
95% Upper Confidence Limit[2]		NA	0.000120	0.000740	0.00907	0.0000420	0.000440	0.00662	0.00149	0.0938	0.00163	0.0391	0.00360	0.00423	0.000270	0.00000450	0.00427	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
HM Sample voided because of equipment malfunction
Screening Level exceedance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
August 22 through August 28, 2024
[Report Updated: October 18, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/22/2024	AM-01	Leialii Hawaiian Homelands	1.4	SSE	86	56	760.7
8/22/2024	AM-02	WW Pump Station #4	1.0	SSE	82	62	763.2
8/22/2024	AM-03	Lahaina Intermediate School	1.1	ESE	82	59	753.7
8/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	81	62	762.7
8/23/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	83	67	760.0
8/23/2024	AM-02	WW Pump Station #4	0.8	S	83	65	762.0
8/23/2024	AM-03	Lahaina Intermediate School	1.2	SSE	83	63	752.5
8/23/2024	AM-04	Lahaina Boys & Girls Club	1.2	SW	83	65	761.5
8/23/2024	AM-05	Opukea Townhomes	1.3	SSE	88	60	760.8
8/24/2024	AM-02	WW Pump Station #4	1.9	SSE	82	70	761.0
8/24/2024	AM-03	Lahaina Intermediate School	2.5	S	82	67	751.5
8/24/2024	AM-04	Lahaina Boys & Girls Club	0.6	S	78	72	761.0
8/24/2024	AM-05	Opukea Townhomes	2.2	ESE	85	66	760.1
8/24/2024	AM-06	Lahaina Skate Park	3.6	SSE	85	66	760.2
8/25/2024	AM-02	WW Pump Station #4	1.3	S	80	76	760.5
8/25/2024	AM-03	Lahaina Intermediate School	1.5	S	81	72	751.0
8/25/2024	AM-05	Opukea Townhomes	1.1	SE	84	72	750.1
8/25/2024	AM-06	Lahaina Skate Park	1.8	SSW	80	75	760.2
8/26/2024	AM-02	WW Pump Station #4	1.1	SSE	81	68	762.1
8/26/2024	AM-03	Lahaina Intermediate School	1.1	ESE	82	63	752.5
8/26/2024	AM-05	Opukea Townhomes	1.2	SSE	84	65	761.2
8/26/2024	AM-06	Lahaina Skate Park	1.3	SSE	81	67	761.8
8/27/2024	AM-02	WW Pump Station #4	1.1	SSE	80	66	762.2
8/27/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	752.6
8/27/2024	AM-05	Opukea Townhomes	1.2	SSE	83	63	761.4
8/27/2024	AM-06	Lahaina Skate Park	1.2	SSE	79	67	762.0
8/28/2024	AM-02	WW Pump Station #4	0.9	S	81	71	762.1
8/28/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	66	752.6
8/28/2024	AM-05	Opukea Townhomes	1.1	SSE	84	66	761.3
8/28/2024	AM-06	Lahaina Skate Park	1.1	S	81	70	761.9

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-082224-AB**	**Sample Description:**	**DL274989**
EMSL Sample Number:	042417968-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7198.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0001 **Customer Sample:** MFL-AM01-082224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J4	None Detected									
A2	F7	None Detected									
A2	C8	None Detected									
A3	B5	None Detected									
A3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082224-AB**		**Sample Description:**	**DL274904**
EMSL Sample Number:	042417968-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0002 **Customer Sample:** MFL-AM02-082224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B10	None Detected									
A5	E8	None Detected									
A5	H5	None Detected									
A6	I8	None Detected									
A6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082224-AB**		**Sample Description:**	**DL274950**
EMSL Sample Number:	042417968-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7114.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0003 **Customer Sample:** MFL-AM03-082224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A3	None Detected									
B2	D5	None Detected									
B2	F7	None Detected									
B3	G6	None Detected									
B3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-082224-AB**	**Sample Description:**	**DL275054**
EMSL Sample Number:	042417968-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7048.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0004 **Customer Sample:** MFL-AM04-082224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A10	None Detected									
B5	C8	None Detected									
B5	G9	None Detected									
B6	I3	None Detected									
B6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-082224-AB**		**Sample Description:**	**DL274897**
EMSL Sample Number:	042417968-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0005 **Customer Sample:** MFL-FB01-082224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J2	None Detected									
C2	H3	None Detected									
C2	E7	None Detected									
C2	C7	None Detected									
C2	A5	None Detected									
C3	J2	None Detected									
C3	H4	None Detected									
C3	F4	None Detected									
C3	D5	None Detected									
C3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-082324-AB**		**Sample Description:**	**DL274958**
EMSL Sample Number:	042417968-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6875.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0006 **Customer Sample:** MFL-AM01-082324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	E1	None Detected									
D1	D6	None Detected									
D1	C9	None Detected									
D3	C6	None Detected									
D3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082324-AB**		**Sample Description:**	**DL274953**
EMSL Sample Number:	042417968-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7179.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0007 **Customer Sample:** MFL-AM02-082324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A6	None Detected									
D5	D3	None Detected									
D5	G5	None Detected									
D6	C6	None Detected									
D6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082324-AB**		**Sample Description:**	**DL274895**
EMSL Sample Number:	042417968-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0008 **Customer Sample:** MFL-AM03-082324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I4	None Detected									
E2	F2	None Detected									
E2	D3	None Detected									
E3	B10	None Detected									
E3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/28/2024 09:30 AM
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Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-082324-AB**		**Sample Description:**	**DL274930**
EMSL Sample Number:	042417968-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0009 **Customer Sample:** MFL-AM04-082324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A2	None Detected									
E5	F8	None Detected									
E5	H10	None Detected									
E6	B6	None Detected									
E6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/03/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-082324-AB**		**Sample Description:**	**DL274942**
EMSL Sample Number:	042417968-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0010 **Customer Sample:** MFL-FB01-082324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F3	J6	None Detected									
F3	H3	None Detected									
F3	F3	None Detected									
F3	D5	None Detected									
F3	B3	None Detected									
F4	J4	None Detected									
F4	H3	None Detected									
F4	F2	None Detected									
F4	D4	None Detected									
F4	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-082424-AB**		**Sample Description:**	**DL275025**
EMSL Sample Number:	042417968-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0011 **Customer Sample:** MFL-AM05-082424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A7	None Detected									
F5	D4	None Detected									
F5	G7	None Detected									
F6	G2	None Detected									
F6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082424-AB**		**Sample Description:**	**DL275077**
EMSL Sample Number:	042417968-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0012 **Customer Sample:** MFL-AM02-082424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B7	None Detected									
G1	D9	None Detected									
G1	G10	None Detected									
G2	H1	None Detected									
G2	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082424-AB**		**Sample Description:**	**DL274898**
EMSL Sample Number:	042417968-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0013 **Customer Sample:** MFL-AM03-082424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	D9	None Detected									
G5	G8	None Detected									
G6	F2	None Detected									
G6	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-082424-AB**		**Sample Description:**	**DL274967**
EMSL Sample Number:	042417968-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5531.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0014 **Customer Sample:** MFL-AM04-082424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	G3	None Detected									
H1	E2	None Detected									
H1	B4	None Detected									
H2	B8	None Detected									
H2	E9	None Detected									
H2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082424-AB** **Sample Description:** **DL274955**

EMSL Sample Number:	042417968-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0015 **Customer Sample:** MFL-FB01-082424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A4	None Detected									
H5	C4	None Detected									
H5	E2	None Detected									
H5	G4	None Detected									
H5	I5	None Detected									
H6	A5	None Detected									
H6	C6	None Detected									
H6	E9	None Detected									
H6	G5	None Detected									
H6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-082524-AB**	**Sample Description:**	**DL274944**
EMSL Sample Number:	042417968-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0016 **Customer Sample:** MFL-AM05-082524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	F8	None Detected									
I1	D6	None Detected									
I1	B4	None Detected									
I2	C8	None Detected									
I2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082524-AB**		**Sample Description:**	**DL274954**
EMSL Sample Number:	042417968-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7008.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0017 **Customer Sample:** MFL-AM02-082524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B6	None Detected									
I5	E8	None Detected									
I5	G6	None Detected									
I6	H4	None Detected									
I6	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082524-AB**		**Sample Description:**	**DL274962**
EMSL Sample Number:	042417968-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6790.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0018 **Customer Sample:** MFL-AM03-082524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J5	None Detected									
J1	G3	None Detected									
J1	D5	None Detected									
J2	G7	None Detected									
J2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082524-AB**		**Sample Description:**	**DL275032**
EMSL Sample Number:	042417968-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6790.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0019 **Customer Sample:** MFL-AM06-082524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A5	None Detected									
J5	D7	None Detected									
J5	H5	None Detected									
J6	D5	None Detected									
J6	A1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082524-AB** **Sample Description: DL275113**

EMSL Sample Number:	042417968-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0020 **Customer Sample:** MFL-FB01-082524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I1	None Detected									
K1	G1	None Detected									
K1	E5	None Detected									
K1	C1	None Detected									
K1	A2	None Detected									
K2	A7	None Detected									
K2	C9	None Detected									
K2	E8	None Detected									
K2	G10	None Detected									
K2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042417968
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	08/28/2024 09:30 AM
Analysis Date:	09/03/2024
Report Date:	09/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042417968-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042417968
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042417968-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A7	None Detected									
K5	C7	None Detected									
K5	D9	None Detected									
K5	F10	None Detected									
K5	H8	None Detected									
K6	A5	None Detected									
K6	C8	None Detected									
K6	E7	None Detected									
K6	G10	None Detected									
K6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042417968

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
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EMSL Order Number / Lab Use Only

#042417968

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 AUG 28 AM 10:22

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202
Country: USA
Phone:
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip:
Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karyen Saldaña
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-082224-AB	DL274989	7,198.819	08/22/24 1102
MFL-AM02-082224-AB	DL274904	7,129.740	08/22/24 1118
MFL-AM03-082224-AB	DL274950	7,114.731	08/22/24 1300
MFL-AM04-082224-AB	DL275054	7,048.877	08/22/24 1319
MFL-FB01-082224-AB	DL274897	0	08/22/24 1200
MFL-AM01-082324-AB	DL274958	6,875.364	08/23/24 0946
MFL-AM02-082324-AB	DL274953	7,178.982	08/23/24 1134
MFL-AM03-082324-AB	DL274895	7,221.782	08/23/24 1307

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.
Revised report sent 9/10/24 reflecting updated sample IDs.

20

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 08/26/24 1100
Received by: FedEx Date/Time: 8/28/24 9:30A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042417968

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Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417968

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* MFL-AM04-082424-AB had a shorter sample run time & lower volume collected. Contact Chelsea Suber before opening more grids.
** MFL-AM03/AM04-082524-AB SEE NOTE ABOVE

	Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
	MFL-AM04-082324-AB	DL274930		7,197.696	08/23/24 1322
	MFL-FB01-082324-AB	DL274942		0	08/23/24 1200
	MFL-AM01-082424-AB	DL275025		7,128.150	08/24/24 1105
	MFL-AM02-082424-AB	DL275077		7,198.077	08/24/24 1134
	MFL-AM03-082424-AB	DL274898		7,122.279	08/24/24 1258
*	MFL-AM04-082424-AB	DL274967		5,531.422	08/24/24 0807
	MFL-FB01-082424-AB	DL274955		0	08/24/24 1200
	MFL-AM01-082524-AB	DL274944		7,198.967	08/25/24 1102
	MFL-AM02-082524-AB	DL274954		7,008.702	08/25/24 1121
**	MFL-AM03-082524-AB	DL274962		6,790.810	08/25/24 1145
**	MFL-AM04-082524-AB	DL275032		6,790.272	08/25/24 1206
	MFL-FB01-082524-AB	DL275113		0	08/25/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 28 AM 10:22

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/26/24 1100	Received by: FedEx	Date/Time: 8/28/24 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only: 042417968

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL:

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone:
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LMS Project ID: (if applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karyn Saldana
Sampled By Signature:
No. of Samples in Shipment:

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Millyn Prep (<0.1%)

Other Test (please specify)

RECEIVED SEP 10 2024

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-082224-AB	DL274989	7,198.819	08/22/24 1102
MFL-AM02-082224-AB	DL274904	7,129.740	08/22/24 1118
MFL-AM03-082224-AB	DL274950	7,114.731	08/22/24 1300
MFL-AM04-082224-AB	DL275054	7,048.877	08/22/24 1319
MFL-FB01-082224-AB	DL274897	0	08/22/24 1200
MFL-AM01-082324-AB	DL274958	6,875.364	08/23/24 0946
MFL-AM02-082324-AB	DL274953	7,178.982	08/23/24 1134
MFL-AM03-082324-AB	DL274895	7,221.782	08/23/24 1307

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* MFL-AM01-082424-AB new sample ID is MFL-AM05-082424-AB
MFL-AM01-082524-AB new sample ID is MFL-AM05-082524-AB
MFL-AM04-082524-AB new sample ID is MFL-AM06-082524-AB

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 08/26/24 1100
Received by: email Date/Time 9/10/24 11:42 AM
Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-01 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Revised COC recv'd 9/10/24 for updated sample volumes

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Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042417968

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE (800) 220-3675
EMAIL · CinnAblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* MFL-AM04-082424-AB had a shorter sample run time & lower volume collected. Content Chelsea Salon before giving more guids.
** MFL-AM03/AM04-082524-AB SEE NOTE ABOVE

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
	MFL-AM04-082324-AB	DL274930	7,197.696	08/23/24 1322
	MFL-FB01-082324-AB	DL274942	0	08/23/24 1200
*	~~MFL-AM01-082424-AB~~ (VOID)	DL275025	7,128.150	08/24/24 1105
	MFL-AM02-082424-AB	DL275077	7,198.077	08/24/24 1134
	MFL-AM03-082424-AB	DL274898	7,122.279	08/24/24 1258
*	MFL-AM04-082424-AB	DL274967	5,531.422	08/24/24 0807
	MFL-FB01-082424-AB	DL274955	0	08/24/24 1200
**	~~MFL-AM01-082524-AB~~ (VOID)	DL274944	7,198.967	08/25/24 1102
	MFL-AM02-082524-AB	DL274954	7,008.702	08/25/24 1121
**	MFL-AM03-082524-AB	DL274962	6,790.810	08/25/24 1145
**	~~MFL-AM04-082524-AB~~ (VOID)	DL275032	6,790.272	08/25/24 1206
	MFL-FB01-082524-AB	DL275113	0	08/25/24 1200

RECEIVED SEP 10 2024

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/26/24 1100	Received by: email	Date/Time: 9/10/24 11:42 AM
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-01 Asbestos R No 10/29/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing the Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference as if set forth. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Scanned with CamScanner

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/04/2024 and Shanna Vasser 09/10/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/22/2024 – 08/25/2024
Report No: 42417968

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes:

1. MFL-AM04-082424-AB, MFL-AM03-082524-AB, and MFL-AM04-082524-AB (original ID)/MFL-AM06-082524-AB (revised ID) had shorter sample run times and lower volumes collected.

2. The laboratory report was reissued on 09/10/2024 to update sample IDs to be consistent with the revised CoC as shown in the table below:

Original Sample ID	Revised Sample ID
MFL-AM01-082424-AB	MFL-AM05-082424-AB
MFL-AM01-082524-AB	MFL-AM05-082524-AB
MFL-AM04-082524-AB	MFL-AM06-082524-AB

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-082624-AB**		**Sample Description:**	**DL274940**
EMSL Sample Number:	042418282-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0001 **Customer Sample:** MFL-AM05-082624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A6	None Detected									
A5	G9	None Detected									
A5	J6	None Detected									
A6	A4	None Detected									
A6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082624-AB**		**Sample Description:**	**DL275059**
EMSL Sample Number:	042418282-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7226.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0002 **Customer Sample:** MFL-AM02-082624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	F4	None Detected									
B1	D2	None Detected									
B1	B5	None Detected									
B2	C3	None Detected									
B2	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-082624-AB** **Sample Description: DL275000**

EMSL Sample Number:	042418282-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7619.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

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Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0003 **Customer Sample:** MFL-AM03-082624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	E3	None Detected									
B5	H6	None Detected									
B6	H4	None Detected									
B6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082624-AB**		**Sample Description:**	**DL275041**
EMSL Sample Number:	042418282-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0004 **Customer Sample:** MFL-AM06-082624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J8	None Detected									
C2	H6	None Detected									
C2	C5	None Detected									
C3	B7	None Detected									
C3	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082624-AB** **Sample Description: DL274902**

EMSL Sample Number:	042418282-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0005 **Customer Sample:** MFL-FB01-082624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A10	None Detected									
C5	C8	None Detected									
C5	E7	None Detected									
C5	G5	None Detected									
C5	I4	None Detected									
C6	J2	None Detected									
C6	H4	None Detected									
C6	F2	None Detected									
C6	D5	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-082724-AB**		**Sample Description:**	**DL274952**
EMSL Sample Number:	042418282-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7233.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0006 **Customer Sample:** MFL-AM05-082724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J6	None Detected									
D2	H4	None Detected									
D2	C4	None Detected									
D3	A8	None Detected									
D3	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082724-AB**		**Sample Description:**	**DL275118**
EMSL Sample Number:	042418282-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042418282**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0007 **Customer Sample:** MFL-AM02-082724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J6	None Detected									
D5	G3	None Detected									
D5	C6	None Detected									
D6	I3	None Detected									
D6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082724-AB**		**Sample Description:**	**DL274984**
EMSL Sample Number:	042418282-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0008 **Customer Sample:** MFL-AM03-082724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J4	None Detected									
E2	G6	None Detected									
E2	D4	None Detected									
E3	H3	None Detected									
E3	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/09/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082724-AB**		**Sample Description:**	**DL274907**
EMSL Sample Number:	042418282-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7083.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0009 **Customer Sample:** MFL-AM06-082724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C8	None Detected									
E5	F4	None Detected									
E5	I6	None Detected									
E6	D6	None Detected									
E6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/09/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082724-AB** **Sample Description: DL275014**

EMSL Sample Number:	042418282-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0010 **Customer Sample:** MFL-FB01-082724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	H3	None Detected									
F2	F2	None Detected									
F2	D4	None Detected									
F2	B5	None Detected									
F3	J4	None Detected									
F3	H2	None Detected									
F3	F3	None Detected									
F3	D5	None Detected									
F3	B6	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/09/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-082824-AB** **Sample Description: DL275001**

EMSL Sample Number:	042418282-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0011 **Customer Sample:** MFL-AM05-082824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I6	None Detected									
F5	F4	None Detected									
F5	C5	None Detected									
F6	F3	None Detected									
F6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082824-AB**		**Sample Description:**	**DL274993**
EMSL Sample Number:	042418282-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0012 **Customer Sample:** MFL-AM02-082824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	H5	None Detected									
G2	E4	None Detected									
G2	B7	None Detected									
G3	B6	None Detected									
G3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-082824-AB** **Sample Description: DL275104**

EMSL Sample Number:	042418282-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0013 **Customer Sample:** MFL-AM03-082824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J5	None Detected									
G5	G2	None Detected									
G5	B3	None Detected									
G6	B8	None Detected									
G6	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082824-AB**		**Sample Description:**	**DL274982**
EMSL Sample Number:	042418282-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7071.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0014 **Customer Sample:** MFL-AM06-082824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B6	None Detected									
H2	E4	None Detected									
H2	H4	None Detected									
H3	B5	None Detected									
H3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/09/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082824-AB** **Sample Description: DL275013**

EMSL Sample Number:	042418282-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0015 **Customer Sample:** MFL-FB01-082824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J4	None Detected									
H5	H6	None Detected									
H5	F4	None Detected									
H5	D6	None Detected									
H5	B5	None Detected									
H6	J7	None Detected									
H6	H7	None Detected									
H6	F6	None Detected									
H6	D5	None Detected									
H6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418282
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/03/2024 09:30 AM
Analysis Date:	09/06/2024
Report Date:	09/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042418282-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418282
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418282-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J9	None Detected									
A2	H2	None Detected									
A2	E1	None Detected									
A2	C3	None Detected									
A2	A8	None Detected									
A3	A10	None Detected									
A3	C7	None Detected									
A3	E8	None Detected									
A3	G10	None Detected									
A3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042418282

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042418282

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 SEP -3 A 10:23

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Mari Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Kaeyen Saldaña
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-082624-AB	DL274940	7,185.575	08/26/24 1101
MFL-AM02-082624-AB	DL~~275~~275059 (EMS)	7,226.946	08/26/24 1123
MFL-AM03-082624-AB	DL275000	7,619.390	08/26/24 1302
MFL-AM06-082624-AB	DL275041	7,229.664	08/26/24 1209
MFL-FB01-082624-AB	DL274902	0	08/26/24 1200
MFL-AM05-082724-AB	DL274952	7,233.239	08/27/24 1059
MFL-AM02-082724-AB	DL275118	7,198.245	08/27/24 1113
MFL-AM03-082724-AB	DL274984	7,195.634	08/27/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

150

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 08/29/24 1100
Received by: Chelsea FX Date/Time: 9/3/24 930

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042418282

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418282

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-082724-AB	DL 274907	7,083.032	08/27/24 1326
MFL-FB01-082724-AB	DL 275014	0	08/27/24 1200
MFL-AM05-082824-AB	DL275001	7,245.592	08/28/24 1106
MFL-AM02-082824-AB	DL274993	7,205.059	08/28/24 1116
MFL-AM03-082824-AB	DL275104	7,130.946	08/28/24 1303
MFL-AM06-082824-AB	DL274982	7,071.790	08/28/24 1323
MFL-FB01-082824-AB	DL275013	0	08/28/24 1200

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 SEP -3 A 10: 23

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/29/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/10/2024 and Shanna Vasser 09/11/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/26/2024 – 08/28/2024
Report No: 42418282

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

September 10, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 09/03/24 13:44.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-082224-HM	4090357-01	Air	08/22/24 23:59	09/03/24 13:44
MFL-AM02-082224-HM	4090357-02	Air	08/22/24 23:59	09/03/24 13:44
MFL-AM03-082224-HM	4090357-03	Air	08/22/24 23:59	09/03/24 13:44
MFL-AM04-082224-HM	4090357-04	Air	08/22/24 23:59	09/03/24 13:44
MFL-AM01-082324-HM	4090357-05	Air	08/23/24 23:59	09/03/24 13:44
MFL-AM03-082324-HM	4090357-06	Air	08/23/24 23:59	09/03/24 13:44
MFL-AM04-082324-HM	4090357-07	Air	08/23/24 23:59	09/03/24 13:44
MFL-FB01-082324-HM	4090357-08	Air	08/23/24 00:00	09/03/24 13:44
MFL-AM05-082424-HM	4090357-09	Air	08/24/24 23:59	09/03/24 13:44
MFL-AM02-082424-HM	4090357-10	Air	08/24/24 23:59	09/03/24 13:44
MFL-AM03-082424-HM	4090357-11	Air	08/24/24 23:59	09/03/24 13:44
MFL-AM04-082424-HM	4090357-12	Air	08/24/24 23:59	09/03/24 13:44
MFL-AM05-082524-HM	4090357-13	Air	08/25/24 23:59	09/03/24 13:44
MFL-AM02-082524-HM	4090357-14	Air	08/25/24 23:59	09/03/24 13:44
MFL-AM03-082524-HM	4090357-15	Air	08/25/24 23:59	09/03/24 13:44
MFL-AM06-082524-HM	4090357-16	Air	08/25/24 23:59	09/03/24 13:44
MFL-FB01-082524-HM	4090357-17	Air	08/25/24 00:00	09/03/24 13:44
MFL-AM05-082624-HM	4090357-18	Air	08/26/24 23:59	09/03/24 13:44
MFL-AM02-082624-HM	4090357-19	Air	08/26/24 23:59	09/03/24 13:44
MFL-AM03-082624-HM	4090357-20	Air	08/26/24 23:59	09/03/24 13:44
MFL-AM06-082624-HM	4090357-21	Air	08/26/24 23:59	09/03/24 13:44

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM05-082724-HM	4090357-22	Air	08/27/24 23:59	09/03/24 13:44
MFL-AM02-082724-HM	4090357-23	Air	08/27/24 23:59	09/03/24 13:44
MFL-AM03-082724-HM	4090357-24	Air	08/27/24 23:59	09/03/24 13:44
MFL-AM06-082724-HM	4090357-25	Air	08/27/24 23:59	09/03/24 13:44
MFL-FB01-082724-HM	4090357-26	Air	08/27/24 00:00	09/03/24 13:44
MFL-AM05-082824-HM	4090357-27	Air	08/28/24 23:59	09/03/24 13:44
MFL-AM02-082824-HM	4090357-28	Air	08/28/24 23:59	09/03/24 13:44
MFL-AM03-082824-HM	4090357-29	Air	08/28/24 23:59	09/03/24 13:44
MFL-AM06-082824-HM	4090357-30	Air	08/28/24 23:59	09/03/24 13:44
MFL-LB01-082324-HM	4090357-31	Air	08/23/24 00:00	09/03/24 13:44

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082224-HM
Matrix: Air
Lab ID: 4090357-01
Sample Volume: 1933.681 m³
Filter ID:
Sampled: 08/22/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 04:13

Comments: Q9553126 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0501**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.774**		**0.00788**
Barium	**7440-39-3**	**7.90**		**0.900**
Beryllium	**7440-41-7**	**0.0369**		**0.00269**
Cadmium	7440-43-9	0.0181	U	0.0623
Chromium	**7440-47-3**	**5.91**		**1.86**
Cobalt	**7440-48-4**	**1.40**	QB-01	**0.0367**
Copper	**7440-50-8**	**278**		**2.21**
Lead	**7439-92-1**	**0.695**		**0.180**
Manganese	**7439-96-5**	**42.9**		**1.59**
Molybdenum	**7439-98-7**	**10.7**		**0.302**
Nickel	**7440-02-0**	**3.07**		**0.549**
Selenium	**7782-49-2**	**0.297**		**0.00754**
Thallium	**7440-28-0**	**0.00229**		**4.96E-4**
Vanadium	**7440-62-2**	**4.61**		**0.0445**
Zinc	7440-66-6	11.1	U	64.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082224-HM
Matrix: Air
Lab ID: 4090357-02
Sample Volume: 1988.887 m³
Filter ID:
Sampled: 08/22/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 04:32

Comments: Q9553125 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.641**		**0.00767**
Barium	**7440-39-3**	**8.46**		**0.875**
Beryllium	**7440-41-7**	**0.0289**		**0.00262**
Cadmium	**7440-43-9**	**0.139**		**0.0606**
Chromium	**7440-47-3**	**4.44**		**1.81**
Cobalt	**7440-48-4**	**1.14**	QB-01	**0.0357**
Copper	**7440-50-8**	**163**		**2.15**
Lead	**7439-92-1**	**4.09**		**0.175**
Manganese	**7439-96-5**	**33.0**		**1.55**
Molybdenum	**7439-98-7**	**2.66**		**0.294**
Nickel	**7440-02-0**	**2.44**		**0.533**
Selenium	**7782-49-2**	**0.294**		**0.00733**
Thallium	**7440-28-0**	**0.00189**		**4.82E-4**
Vanadium	**7440-62-2**	**3.62**		**0.0433**
Zinc	7440-66-6	16.8	U	62.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082224-HM
Matrix: Air
Lab ID: 4090357-03
Sample Volume: 1952.574 m³
Filter ID:
Sampled: 08/22/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 04:50

Comments: Q9553124 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0421**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.229**		**0.00781**
Barium	**7440-39-3**	**2.95**		**0.892**
Beryllium	**7440-41-7**	**0.0276**		**0.00267**
Cadmium	7440-43-9	0.00869	U	0.0617
Chromium	**7440-47-3**	**2.73**		**1.84**
Cobalt	**7440-48-4**	**0.460**	QB-01	**0.0363**
Copper	**7440-50-8**	**35.5**		**2.19**
Lead	**7439-92-1**	**0.357**		**0.178**
Manganese	**7439-96-5**	**11.9**		**1.57**
Molybdenum	**7439-98-7**	**2.48**		**0.299**
Nickel	**7440-02-0**	**1.17**		**0.543**
Selenium	**7782-49-2**	**0.161**		**0.00747**
Thallium	**7440-28-0**	**8.25E-4**		**4.91E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0441**
Zinc	7440-66-6	10.0	U	64.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082224-HM
Matrix: Air
Lab ID: 4090357-04
Sample Volume: 1724.969 m³
Filter ID:
Sampled: 08/22/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 05:04

Comments: Q9553122 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0678**	SL	**0.0364**
Arsenic	**7440-38-2**	**0.184**		**0.00884**
Barium	**7440-39-3**	**4.99**		**1.01**
Beryllium	**7440-41-7**	**0.00980**		**0.00302**
Cadmium	7440-43-9	0.0198	U	0.0699
Chromium	**7440-47-3**	**2.34**		**2.08**
Cobalt	**7440-48-4**	**0.336**	QB-01	**0.0411**
Copper	**7440-50-8**	**28.5**		**2.48**
Lead	**7439-92-1**	**0.310**		**0.202**
Manganese	**7439-96-5**	**10.4**		**1.78**
Molybdenum	**7439-98-7**	**1.52**		**0.339**
Nickel	**7440-02-0**	**1.06**		**0.615**
Selenium	**7782-49-2**	**0.149**		**0.00845**
Thallium	**7440-28-0**	**6.60E-4**		**5.56E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0499**
Zinc	7440-66-6	7.52	U	72.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082324-HM
Matrix: Air
Lab ID: 4090357-05
Sample Volume: 1807.987 m³
Filter ID:
Sampled: 08/23/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/04/24 21:39

Comments: Q9553121 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0347**
Arsenic	**7440-38-2**	**1.92**		**0.00843**
Barium	**7440-39-3**	**8.79**		**0.963**
Beryllium	**7440-41-7**	**0.0291**		**0.00288**
Cadmium	7440-43-9	0.0486	U	0.0667
Chromium	**7440-47-3**	**6.52**		**1.99**
Cobalt	**7440-48-4**	**1.30**	QB-01	**0.0392**
Copper	**7440-50-8**	**269**	QM-4X	**2.37**
Lead	**7439-92-1**	**0.556**		**0.193**
Manganese	**7439-96-5**	**32.6**		**1.70**
Molybdenum	**7439-98-7**	**8.74**	QM-4X	**0.323**
Nickel	**7440-02-0**	**3.24**		**0.587**
Selenium	**7782-49-2**	**0.252**	SRD-01	**0.00806**
Thallium	**7440-28-0**	**0.00176**		**5.30E-4**
Vanadium	**7440-62-2**	**3.76**		**0.0476**
Zinc	7440-66-6	15.7	U	69.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082324-HM
Matrix: Air
Lab ID: 4090357-06
Sample Volume: 1986.686 m³
Filter ID:
Sampled: 08/23/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 05:20

Comments: Q9555459 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0524**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.220**		**0.00767**
Barium	**7440-39-3**	**3.79**		**0.876**
Beryllium	**7440-41-7**	**0.0269**		**0.00262**
Cadmium	7440-43-9	0.0108	U	0.0607
Chromium	**7440-47-3**	**3.66**		**1.81**
Cobalt	**7440-48-4**	**0.570**	QB-01	**0.0357**
Copper	**7440-50-8**	**49.8**		**2.15**
Lead	**7439-92-1**	**0.433**		**0.175**
Manganese	**7439-96-5**	**14.2**		**1.55**
Molybdenum	**7439-98-7**	**3.15**		**0.294**
Nickel	**7440-02-0**	**1.59**		**0.534**
Selenium	**7782-49-2**	**0.180**		**0.00734**
Thallium	**7440-28-0**	**9.21E-4**		**4.82E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0433**
Zinc	7440-66-6	9.77	U	62.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082324-HM
Matrix: Air
Lab ID: 4090357-07
Sample Volume: 1742.312 m³
Filter ID:
Sampled: 08/23/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 05:34

Comments: Q9555457 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0619**	SL	**0.0360**
Arsenic	**7440-38-2**	**0.263**		**0.00875**
Barium	**7440-39-3**	**3.76**		**0.999**
Beryllium	**7440-41-7**	**0.0130**		**0.00299**
Cadmium	7440-43-9	0.0138	U	0.0692
Chromium	**7440-47-3**	**3.66**		**2.06**
Cobalt	**7440-48-4**	**0.464**	QB-01	**0.0407**
Copper	**7440-50-8**	**25.2**		**2.46**
Lead	**7439-92-1**	**0.452**		**0.200**
Manganese	**7439-96-5**	**12.6**		**1.76**
Molybdenum	**7439-98-7**	**1.64**		**0.335**
Nickel	**7440-02-0**	**1.36**		**0.609**
Selenium	**7782-49-2**	**0.175**		**0.00837**
Thallium	**7440-28-0**	**7.35E-4**		**5.50E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0494**
Zinc	7440-66-6	8.35	U	71.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082324-HM
Matrix: Air
Lab ID: 4090357-08
Sample Volume: 1807.987 m³
Filter ID:
Sampled: 08/23/24 00:00
Received: 09/03/24 13:44
Analysis Date: 09/05/24 05:50

Comments: Q9555451 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00470	SL, U	0.0347
Arsenic	7440-38-2	0.00793	U	0.00843
Barium	7440-39-3	0.629	U	0.963
Beryllium	7440-41-7	0.00116	U	0.00288
Cadmium	7440-43-9	0.00251	U	0.0667
Chromium	7440-47-3	1.56	U	1.99
Cobalt	7440-48-4	0.0328	QB-01, U	0.0392
Copper	7440-50-8	0.707	U	2.37
Lead	7439-92-1	0.0599	U	0.193
Manganese	7439-96-5	0.363	U	1.70
Molybdenum	7439-98-7	0.287	U	0.323
Nickel	7440-02-0	0.420	U	0.587
Selenium	7782-49-2	0.00462	U	0.00806
Thallium	7440-28-0	9.08E-5	U	5.30E-4
Vanadium	7440-62-2	0.0430	U	0.0476
Zinc	7440-66-6	3.04	U	69.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082424-HM
Matrix: Air
Lab ID: 4090357-09
Sample Volume: 1915.127 m³
Filter ID:
Sampled: 08/24/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 06:03

Comments: Q9555456 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0710**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.561**		**0.00796**
Barium	**7440-39-3**	**7.17**		**0.909**
Beryllium	**7440-41-7**	**0.0285**		**0.00272**
Cadmium	7440-43-9	0.0424	U	0.0630
Chromium	**7440-47-3**	**6.07**		**1.88**
Cobalt	**7440-48-4**	**1.41**	QB-01	**0.0370**
Copper	**7440-50-8**	**68.9**		**2.23**
Lead	**7439-92-1**	**0.866**		**0.182**
Manganese	**7439-96-5**	**31.8**		**1.61**
Molybdenum	**7439-98-7**	**2.47**		**0.305**
Nickel	**7440-02-0**	**4.63**		**0.554**
Selenium	**7782-49-2**	**0.260**		**0.00761**
Thallium	**7440-28-0**	**0.00181**		**5.00E-4**
Vanadium	**7440-62-2**	**3.55**		**0.0449**
Zinc	7440-66-6	15.4	U	65.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082424-HM
Matrix: Air
Lab ID: 4090357-10
Sample Volume: 2114.574 m³
Filter ID:
Sampled: 08/24/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 06:20

Comments: Q9555455 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.601**		**0.00721**
Barium	**7440-39-3**	**8.70**		**0.823**
Beryllium	**7440-41-7**	**0.0418**		**0.00246**
Cadmium	7440-43-9	0.0339	U	0.0570
Chromium	**7440-47-3**	**5.35**		**1.70**
Cobalt	**7440-48-4**	**1.15**	QB-01	**0.0335**
Copper	**7440-50-8**	**57.5**		**2.02**
Lead	**7439-92-1**	**2.05**		**0.165**
Manganese	**7439-96-5**	**33.2**		**1.45**
Molybdenum	**7439-98-7**	**3.18**		**0.276**
Nickel	**7440-02-0**	**3.16**		**0.502**
Selenium	**7782-49-2**	**0.280**		**0.00689**
Thallium	**7440-28-0**	**0.00207**		**4.53E-4**
Vanadium	**7440-62-2**	**3.66**		**0.0407**
Zinc	7440-66-6	24.7	U	59.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082424-HM
Matrix: Air
Lab ID: 4090357-11
Sample Volume: 1910.021 m³
Filter ID:
Sampled: 08/24/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 06:39

Comments: Q9555454 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0245	SL, U	0.0329
Arsenic	**7440-38-2**	**0.166**		**0.00798**
Barium	**7440-39-3**	**2.52**		**0.911**
Beryllium	**7440-41-7**	**0.0162**		**0.00273**
Cadmium	7440-43-9	0.0144	U	0.0631
Chromium	**7440-47-3**	**2.89**		**1.88**
Cobalt	**7440-48-4**	**0.415**	QB-01	**0.0371**
Copper	**7440-50-8**	**41.3**		**2.24**
Lead	**7439-92-1**	**0.362**		**0.182**
Manganese	**7439-96-5**	**9.71**		**1.61**
Molybdenum	**7439-98-7**	**2.20**		**0.306**
Nickel	**7440-02-0**	**1.31**		**0.555**
Selenium	**7782-49-2**	**0.138**		**0.00763**
Thallium	**7440-28-0**	**8.55E-4**		**5.02E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0451**
Zinc	7440-66-6	7.19	U	65.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082424-HM
Matrix: Air
Lab ID: 4090357-12
Sample Volume: 1199.348 m³
Filter ID:
Sampled: 08/24/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 01:42

Comments: Q9555453 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0524**
Arsenic	**7440-38-2**	**0.160**		**0.0127**
Barium	**7440-39-3**	**3.18**		**1.45**
Beryllium	**7440-41-7**	**0.00808**		**0.00434**
Cadmium	7440-43-9	0.0160	U	0.101
Chromium	**7440-47-3**	**8.01**	QM-07	**3.00**
Cobalt	**7440-48-4**	**0.324**	QB-01	**0.0591**
Copper	**7440-50-8**	**31.3**		**3.57**
Lead	**7439-92-1**	**0.439**		**0.290**
Manganese	**7439-96-5**	**8.22**		**2.56**
Molybdenum	**7439-98-7**	**2.25**		**0.487**
Nickel	**7440-02-0**	**2.80**	QM-07	**0.884**
Selenium	**7782-49-2**	**0.172**		**0.0122**
Thallium	**7440-28-0**	**0.00124**		**7.99E-4**
Vanadium	**7440-62-2**	**0.734**		**0.0718**
Zinc	7440-66-6	12.5	U	104

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082524-HM
Matrix: Air
Lab ID: 4090357-13
Sample Volume: 1900.897 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 07:47

Comments: Q9555450 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0782**	SL	**0.0330**
Arsenic	**7440-38-2**	**1.78**		**0.00802**
Barium	**7440-39-3**	**30.8**		**0.916**
Beryllium	**7440-41-7**	**0.147**		**0.00274**
Cadmium	**7440-43-9**	**0.301**		**0.0634**
Chromium	**7440-47-3**	**27.1**		**1.89**
Cobalt	**7440-48-4**	**7.75**	QB-01	**0.0373**
Copper	**7440-50-8**	**60.7**		**2.25**
Lead	**7439-92-1**	**2.37**		**0.183**
Manganese	**7439-96-5**	**165**		**1.62**
Molybdenum	**7439-98-7**	**1.27**		**0.307**
Nickel	**7440-02-0**	**25.3**		**0.558**
Selenium	**7782-49-2**	**0.617**		**0.00767**
Thallium	**7440-28-0**	**0.00618**		**5.04E-4**
Zinc	7440-66-6	43.5	U	65.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082524-HM
Matrix: Air
Lab ID: 4090357-13RE1
Sample Volume: 1900.897 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 15:16

Comments: Q9555450 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**19.5**	D	**0.181**

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082524-HM
Matrix: Air
Lab ID: 4090357-14
Sample Volume: 2108.108 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 08:04

Comments: Q9555448 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.181	SL	0.0298
Arsenic	7440-38-2	2.22		0.00723
Barium	7440-39-3	30.7		0.826
Beryllium	7440-41-7	0.131		0.00247
Cadmium	7440-43-9	0.244		0.0572
Chromium	7440-47-3	15.5		1.71
Cobalt	7440-48-4	4.09	QB-01	0.0336
Copper	7440-50-8	94.3		2.03
Lead	7439-92-1	9.87		0.165
Manganese	7439-96-5	123		1.46
Molybdenum	7439-98-7	2.30		0.277
Nickel	7440-02-0	9.52		0.503
Selenium	7782-49-2	0.615		0.00692
Thallium	7440-28-0	0.00511		4.55E-4
Zinc	7440-66-6	96.6		59.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082524-HM
Matrix: Air
Lab ID: 4090357-14RE1
Sample Volume: 2108.108 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 15:33

Comments: Q9555448 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**13.9**	D	**0.163**

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082524-HM
Matrix: Air
Lab ID: 4090357-15
Sample Volume: 1895.767 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 08:24

Comments: Q9555447 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0256	U, SL	0.0331
Arsenic	**7440-38-2**	**0.241**		**0.00804**
Barium	**7440-39-3**	**4.22**		**0.918**
Beryllium	**7440-41-7**	**0.0400**		**0.00275**
Cadmium	**7440-43-9**	**0.129**		**0.0636**
Chromium	**7440-47-3**	**5.34**		**1.90**
Cobalt	**7440-48-4**	**1.07**	QB-01	**0.0374**
Copper	**7440-50-8**	**60.0**		**2.26**
Lead	**7439-92-1**	**0.417**		**0.184**
Manganese	**7439-96-5**	**25.3**		**1.62**
Molybdenum	**7439-98-7**	**3.15**		**0.308**
Nickel	**7440-02-0**	**3.84**		**0.560**
Selenium	**7782-49-2**	**0.208**		**0.00769**
Thallium	**7440-28-0**	**0.00151**		**5.05E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0454**
Zinc	7440-66-6	16.1	U	65.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082524-HM
Matrix: Air
Lab ID: 4090357-16
Sample Volume: 1470.711 m³
Filter ID:
Sampled: 08/25/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 08:41

Comments: Q9555445 - Filter nonhomogeneous, appears to have water damage. MS/MSD

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.168**	SL	**0.0427**
Arsenic	**7440-38-2**	**1.12**		**0.0104**
Barium	**7440-39-3**	**10.7**		**1.18**
Beryllium	**7440-41-7**	**0.0557**		**0.00354**
Cadmium	7440-43-9	0.0537	U	0.0820
Chromium	**7440-47-3**	**10.4**		**2.44**
Cobalt	**7440-48-4**	**2.24**	QB-01	**0.0482**
Copper	**7440-50-8**	**27.5**		**2.91**
Lead	**7439-92-1**	**2.92**		**0.237**
Manganese	**7439-96-5**	**58.1**		**2.09**
Molybdenum	**7439-98-7**	**1.41**		**0.397**
Nickel	**7440-02-0**	**5.20**		**0.721**
Selenium	**7782-49-2**	**0.328**		**0.00991**
Thallium	**7440-28-0**	**0.00284**		**6.52E-4**
Vanadium	**7440-62-2**	**5.26**		**0.0585**
Zinc	7440-66-6	29.7	U	85.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082524-HM
Matrix: Air
Lab ID: 4090357-17
Sample Volume: 2108.108 m³
Filter ID:
Sampled: 08/25/24 00:00
Received: 09/03/24 13:44
Analysis Date: 09/05/24 09:00

Comments: Q9555442 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00653	U, SL	0.0298
Arsenic	**7440-38-2**	**0.0152**	FB-01	**0.00723**
Barium	7440-39-3	0.708	U	0.826
Beryllium	7440-41-7	0.00115	U	0.00247
Cadmium	7440-43-9	0.00346	U	0.0572
Chromium	7440-47-3	1.39	U	1.71
Cobalt	**7440-48-4**	**0.0408**	FB-01, QB-01	**0.0336**
Copper	7440-50-8	1.16	U	2.03
Lead	7439-92-1	0.0700	U	0.165
Manganese	7439-96-5	0.572	U	1.46
Molybdenum	**7439-98-7**	**0.293**	FB-01	**0.277**
Nickel	7440-02-0	0.390	U	0.503
Selenium	7782-49-2	0.00440	U	0.00692
Thallium	7440-28-0	9.25E-5	U	4.55E-4
Vanadium	**7440-62-2**	**0.0718**	FB-01	**0.0408**
Zinc	7440-66-6	4.52	U	59.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082624-HM
Matrix: Air
Lab ID: 4090357-18
Sample Volume: 1939.664 m³
Filter ID:
Sampled: 08/26/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 09:15

Comments: Q9555443 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0644**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.347**		**0.00786**
Barium	**7440-39-3**	**3.70**		**0.898**
Beryllium	**7440-41-7**	**0.00399**		**0.00268**
Cadmium	7440-43-9	0.0320	U	0.0622
Chromium	**7440-47-3**	**2.26**		**1.85**
Cobalt	**7440-48-4**	**0.158**	QB-01	**0.0366**
Copper	**7440-50-8**	**64.0**		**2.21**
Lead	**7439-92-1**	**0.505**		**0.180**
Manganese	**7439-96-5**	**3.55**		**1.59**
Molybdenum	**7439-98-7**	**2.52**		**0.301**
Nickel	**7440-02-0**	**0.756**		**0.547**
Selenium	**7782-49-2**	**0.195**		**0.00752**
Thallium	**7440-28-0**	**0.00129**		**4.94E-4**
Vanadium	**7440-62-2**	**0.400**		**0.0444**
Zinc	7440-66-6	11.3	U	64.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082624-HM
Matrix: Air
Lab ID: 4090357-19
Sample Volume: 2115.456 m³
Filter ID:
Sampled: 08/26/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 09:30

Comments: Q9555441 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0792**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.570**		**0.00721**
Barium	**7440-39-3**	**4.25**		**0.823**
Beryllium	**7440-41-7**	**0.00532**		**0.00246**
Cadmium	7440-43-9	0.0164	U	0.0570
Chromium	**7440-47-3**	**1.99**		**1.70**
Cobalt	**7440-48-4**	**0.178**	QB-01	**0.0335**
Copper	**7440-50-8**	**45.4**		**2.02**
Lead	**7439-92-1**	**0.468**		**0.165**
Manganese	**7439-96-5**	**5.10**		**1.45**
Molybdenum	**7439-98-7**	**3.98**		**0.276**
Nickel	**7440-02-0**	**0.664**		**0.501**
Selenium	**7782-49-2**	**0.196**		**0.00689**
Thallium	**7440-28-0**	**0.00135**		**4.53E-4**
Vanadium	**7440-62-2**	**0.580**		**0.0407**
Zinc	7440-66-6	10.6	U	59.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082624-HM
Matrix: Air
Lab ID: 4090357-20
Sample Volume: 1895.767 m³
Filter ID:
Sampled: 08/26/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 09:45

Comments: Q9555440 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0222	U, SL	0.0331
Arsenic	**7440-38-2**	**0.138**		**0.00804**
Barium	**7440-39-3**	**1.83**		**0.918**
Beryllium	**7440-41-7**	**0.0137**		**0.00275**
Cadmium	7440-43-9	0.0337	U	0.0636
Chromium	**7440-47-3**	**2.35**		**1.90**
Cobalt	**7440-48-4**	**0.203**	QB-01	**0.0374**
Copper	**7440-50-8**	**90.5**		**2.26**
Lead	**7439-92-1**	**0.199**		**0.184**
Manganese	**7439-96-5**	**4.95**		**1.62**
Molybdenum	**7439-98-7**	**3.80**		**0.308**
Nickel	**7440-02-0**	**1.23**		**0.560**
Selenium	**7782-49-2**	**0.171**		**0.00769**
Thallium	**7440-28-0**	**0.00129**		**5.05E-4**
Vanadium	**7440-62-2**	**0.443**		**0.0454**
Zinc	7440-66-6	8.44	U	65.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082624-HM
Matrix: Air
Lab ID: 4090357-21
Sample Volume: 2073.816 m³
Filter ID:
Sampled: 08/26/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 10:14

Comments: Q9555439 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.261**		**0.00735**
Barium	**7440-39-3**	**3.09**		**0.839**
Beryllium	**7440-41-7**	**0.00543**		**0.00251**
Cadmium	7440-43-9	0.0140	U	0.0581
Chromium	**7440-47-3**	**2.17**		**1.73**
Cobalt	**7440-48-4**	**0.165**	QB-01	**0.0342**
Copper	**7440-50-8**	**35.5**		**2.06**
Lead	**7439-92-1**	**0.535**		**0.168**
Manganese	**7439-96-5**	**4.57**		**1.48**
Molybdenum	**7439-98-7**	**1.89**		**0.282**
Nickel	**7440-02-0**	**0.816**		**0.512**
Selenium	**7782-49-2**	**0.153**		**0.00703**
Thallium	**7440-28-0**	**0.00127**		**4.62E-4**
Vanadium	**7440-62-2**	**0.448**		**0.0415**
Zinc	7440-66-6	12.5	U	60.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082724-HM
Matrix: Air
Lab ID: 4090357-22
Sample Volume: 1993.889 m³
Filter ID:
Sampled: 08/27/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 11:21

Comments: Q9555436 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0549**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.221**		**0.00765**
Barium	**7440-39-3**	**2.64**		**0.873**
Beryllium	**7440-41-7**	**0.00585**		**0.00261**
Cadmium	7440-43-9	0.0173	U	0.0605
Chromium	**7440-47-3**	**3.02**		**1.80**
Cobalt	**7440-48-4**	**0.235**	QB-01	**0.0356**
Copper	**7440-50-8**	**69.3**		**2.15**
Lead	**7439-92-1**	**0.468**		**0.175**
Manganese	**7439-96-5**	**5.47**		**1.54**
Molybdenum	**7439-98-7**	**2.04**		**0.293**
Nickel	**7440-02-0**	**1.38**		**0.532**
Selenium	**7782-49-2**	**0.203**		**0.00731**
Thallium	**7440-28-0**	**0.00762**		**4.81E-4**
Vanadium	**7440-62-2**	**0.664**		**0.0432**
Zinc	7440-66-6	9.68	U	62.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082724-HM
Matrix: Air
Lab ID: 4090357-23
Sample Volume: 2093.393 m³
Filter ID:
Sampled: 08/27/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 11:36

Comments: Q9555435 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.316**		**0.00728**
Barium	**7440-39-3**	**4.45**		**0.832**
Beryllium	**7440-41-7**	**0.00962**		**0.00249**
Cadmium	**7440-43-9**	**0.0742**		**0.0576**
Chromium	**7440-47-3**	**2.36**		**1.72**
Cobalt	**7440-48-4**	**0.302**	QB-01	**0.0339**
Copper	**7440-50-8**	**38.9**		**2.04**
Lead	**7439-92-1**	**0.716**		**0.166**
Manganese	**7439-96-5**	**8.70**		**1.47**
Molybdenum	**7439-98-7**	**2.88**		**0.279**
Nickel	**7440-02-0**	**1.11**		**0.507**
Selenium	**7782-49-2**	**0.251**		**0.00696**
Thallium	**7440-28-0**	**0.00784**		**4.58E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0411**
Zinc	7440-66-6	15.4	U	59.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082724-HM
Matrix: Air
Lab ID: 4090357-24
Sample Volume: 2009.16 m³
Filter ID:
Sampled: 08/27/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 11:52

Comments: Q9555434 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0339**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.167**		**0.00759**
Barium	**7440-39-3**	**2.35**		**0.866**
Beryllium	**7440-41-7**	**0.0166**		**0.00259**
Cadmium	7440-43-9	0.0155	U	0.0600
Chromium	**7440-47-3**	**2.43**		**1.79**
Cobalt	**7440-48-4**	**0.292**	QB-01	**0.0353**
Copper	**7440-50-8**	**75.6**		**2.13**
Lead	**7439-92-1**	**0.333**		**0.173**
Manganese	**7439-96-5**	**6.78**		**1.53**
Molybdenum	**7439-98-7**	**3.38**		**0.291**
Nickel	**7440-02-0**	**1.03**		**0.528**
Selenium	**7782-49-2**	**0.206**		**0.00726**
Thallium	**7440-28-0**	**0.00730**		**4.77E-4**
Vanadium	**7440-62-2**	**0.843**		**0.0428**
Zinc	7440-66-6	8.69	U	62.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082724-HM
Matrix: Air
Lab ID: 4090357-25
Sample Volume: 1738.037 m³
Filter ID:
Sampled: 08/27/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 12:08

Comments: Q9555433 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.204**		**0.00877**
Barium	**7440-39-3**	**9.47**		**1.00**
Beryllium	**7440-41-7**	**0.00671**		**0.00300**
Cadmium	7440-43-9	0.0131	U	0.0694
Chromium	**7440-47-3**	**2.76**		**2.07**
Cobalt	**7440-48-4**	**0.219**	QB-01	**0.0408**
Copper	**7440-50-8**	**37.1**		**2.46**
Lead	**7439-92-1**	**0.675**		**0.200**
Manganese	**7439-96-5**	**5.67**		**1.77**
Molybdenum	**7439-98-7**	**1.94**		**0.336**
Nickel	**7440-02-0**	**0.991**		**0.610**
Selenium	**7782-49-2**	**0.179**		**0.00839**
Thallium	**7440-28-0**	**0.00611**		**5.51E-4**
Vanadium	**7440-62-2**	**0.762**		**0.0495**
Zinc	7440-66-6	14.1	U	71.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082724-HM
Matrix: Air
Lab ID: 4090357-26
Sample Volume: 2093.393 m³
Filter ID:
Sampled: 08/27/24 00:00
Received: 09/03/24 13:44
Analysis Date: 09/05/24 12:23

Comments: Q9555428 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0103	SL, U	0.0300
Arsenic	**7440-38-2**	**0.00883**	FB-01	**0.00728**
Barium	7440-39-3	0.448	U	0.832
Beryllium	7440-41-7	7.71E-4	U	0.00249
Cadmium	7440-43-9	0.00253	U	0.0576
Chromium	7440-47-3	1.20	U	1.72
Cobalt	7440-48-4	0.0280	QB-01, U	0.0339
Copper	7440-50-8	0.510	U	2.04
Lead	7439-92-1	0.0354	U	0.166
Manganese	7439-96-5	0.274	U	1.47
Molybdenum	7439-98-7	0.188	U	0.279
Nickel	7440-02-0	0.261	U	0.507
Selenium	7782-49-2	0.00311	U	0.00696
Thallium	7440-28-0	9.79E-5	U	4.58E-4
Vanadium	7440-62-2	0.0367	U	0.0411
Zinc	7440-66-6	2.41	U	59.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082824-HM
Matrix: Air
Lab ID: 4090357-27
Sample Volume: 1931.452 m³
Filter ID:
Sampled: 08/28/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 12:36

Comments: Q9555431 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.143**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.578**		**0.00789**
Barium	**7440-39-3**	**6.02**		**0.901**
Beryllium	**7440-41-7**	**0.0158**		**0.00270**
Cadmium	7440-43-9	0.0344	U	0.0624
Chromium	**7440-47-3**	**3.22**		**1.86**
Cobalt	**7440-48-4**	**0.558**	QB-01	**0.0367**
Copper	**7440-50-8**	**92.7**		**2.22**
Lead	**7439-92-1**	**1.16**		**0.180**
Manganese	**7439-96-5**	**16.7**		**1.59**
Molybdenum	**7439-98-7**	**2.71**		**0.302**
Nickel	**7440-02-0**	**1.84**		**0.549**
Selenium	**7782-49-2**	**0.249**		**0.00755**
Thallium	**7440-28-0**	**0.00565**		**4.96E-4**
Vanadium	**7440-62-2**	**2.03**		**0.0446**
Zinc	7440-66-6	21.1	U	64.7

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082824-HM **Lab ID:** 4090357-28 **Sampled:** 08/28/24 23:59
Matrix: Air **Sample Volume:** 2120.752 m³ **Received:** 09/03/24 13:44
Filter ID: **Analysis Date:** 09/05/24 12:54
Comments: Q9555427 - Recieved in good condition. - Duplicate FIlter ID, Use Sample ID to d

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.329**		**0.00719**
Barium	**7440-39-3**	**5.21**		**0.821**
Beryllium	**7440-41-7**	**0.0122**		**0.00245**
Cadmium	7440-43-9	0.0515	U	0.0568
Chromium	**7440-47-3**	**2.52**		**1.70**
Cobalt	**7440-48-4**	**0.441**	QB-01	**0.0334**
Copper	**7440-50-8**	**49.6**		**2.02**
Lead	**7439-92-1**	**0.930**		**0.164**
Manganese	**7439-96-5**	**12.3**		**1.45**
Molybdenum	**7439-98-7**	**4.01**		**0.275**
Nickel	**7440-02-0**	**1.46**		**0.500**
Selenium	**7782-49-2**	**0.247**		**0.00687**
Thallium	**7440-28-0**	**0.00513**		**4.52E-4**
Vanadium	**7440-62-2**	**1.69**		**0.0406**
Zinc	7440-66-6	14.3	U	58.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082824-HM **Lab ID:** 4090357-29 **Sampled:** 08/28/24 23:59
Matrix: Air **Sample Volume:** 2026.84 m³ **Received:** 09/03/24 13:44
Filter ID: **Analysis Date:** 09/05/24 13:26

Comments: Q9555427 - Recieved in good condition. - Duplicate FIlter ID, Use Sample ID to d

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0770**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.312**		**0.00752**
Barium	**7440-39-3**	**3.15**		**0.859**
Beryllium	**7440-41-7**	**0.0177**		**0.00257**
Cadmium	7440-43-9	0.0103	U	0.0595
Chromium	**7440-47-3**	**2.79**		**1.77**
Cobalt	**7440-48-4**	**0.415**	QB-01	**0.0350**
Copper	**7440-50-8**	**71.2**		**2.11**
Lead	**7439-92-1**	**0.367**		**0.172**
Manganese	**7439-96-5**	**9.91**		**1.52**
Molybdenum	**7439-98-7**	**2.52**		**0.288**
Nickel	**7440-02-0**	**1.44**		**0.523**
Selenium	**7782-49-2**	**0.162**		**0.00719**
Thallium	**7440-28-0**	**0.00365**		**4.73E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0425**
Zinc	7440-66-6	8.65	U	61.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082824-HM
Matrix: Air
Lab ID: 4090357-30
Sample Volume: 1403.89 m³
Filter ID:
Sampled: 08/28/24 23:59
Received: 09/03/24 13:44
Analysis Date: 09/05/24 13:40

Comments: Q9555425 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.245**	SL	**0.0447**
Arsenic	**7440-38-2**	**0.325**		**0.0109**
Barium	**7440-39-3**	**7.38**		**1.24**
Beryllium	**7440-41-7**	**0.0102**		**0.00371**
Cadmium	7440-43-9	0.0222	U	0.0859
Chromium	**7440-47-3**	**6.34**		**2.56**
Cobalt	**7440-48-4**	**0.455**	QB-01	**0.0505**
Copper	**7440-50-8**	**76.4**		**3.05**
Lead	**7439-92-1**	**0.918**		**0.248**
Manganese	**7439-96-5**	**11.8**		**2.19**
Molybdenum	**7439-98-7**	**2.28**		**0.416**
Nickel	**7440-02-0**	**4.89**		**0.756**
Selenium	**7782-49-2**	**0.204**		**0.0104**
Thallium	**7440-28-0**	**0.00458**		**6.83E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0613**
Zinc	7440-66-6	22.9	U	89.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-082324-HM
Matrix: Air
Lab ID: 4090357-31
Sample Volume: 2120.752 m³
Filter ID:
Sampled: 08/23/24 00:00
Received: 09/03/24 13:44
Analysis Date: 09/05/24 14:49

Comments: Q9555452 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00419	SL, U	0.0296
Arsenic	7440-38-2	0.00647	U	0.00719
Barium	7440-39-3	0.589	U	0.821
Beryllium	7440-41-7	7.25E-4	U	0.00245
Cadmium	7440-43-9	0.00206	U	0.0568
Chromium	7440-47-3	1.42	U	1.70
Cobalt	7440-48-4	0.0242	QB-01, U	0.0334
Copper	7440-50-8	0.428	U	2.02
Lead	7439-92-1	0.0529	U	0.164
Manganese	7439-96-5	0.293	U	1.45
Molybdenum	7439-98-7	0.262	U	0.275
Nickel	7440-02-0	0.306	U	0.500
Selenium	7782-49-2	0.00388	U	0.00687
Thallium	7440-28-0	1.36E-4	U	4.52E-4
Vanadium	7440-62-2	0.0260	U	0.0406
Zinc	7440-66-6	2.23	U	58.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Blank (2409021-CCB1)				Prepared & Analyzed: 09/04/24						
Antimony	0.276		ng/l							
Arsenic	-3.02		ng/l							U
Barium	0.108		ng/l							
Beryllium	0.0244		ng/l							
Cadmium	0.247		ng/l							
Chromium	1.84		ng/l							
Cobalt	-0.215		ng/l							U
Copper	38.1		ng/l							
Lead	3.52		ng/l							
Manganese	2.95		ng/l							
Molybdenum	27.0		ng/l							
Nickel	4.56		ng/l							
Selenium	-4.52		ng/l							U
Thallium	1.34		ng/l							
Vanadium	-28.6		ng/l							U
Zinc	-26.1		ng/l							U
Calibration Blank (2409021-CCB2)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.143		ng/l							
Arsenic	-2.99		ng/l							U
Barium	2.70		ng/l							
Beryllium	-0.733		ng/l							U
Cadmium	0.158		ng/l							
Chromium	2.14		ng/l							
Cobalt	-0.208		ng/l							U
Copper	56.0		ng/l							
Lead	2.00		ng/l							
Manganese	1.75		ng/l							
Molybdenum	5.65		ng/l							
Nickel	2.91		ng/l							
Selenium	10.3		ng/l							
Thallium	1.11		ng/l							
Vanadium	-29.2		ng/l							U
Zinc	-58.6		ng/l							U
Calibration Blank (2409021-CCB3)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.455		ng/l							
Arsenic	-2.64		ng/l							U
Barium	-0.354		ng/l							U
Beryllium	-0.448		ng/l							U

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REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Blank (2409021-CCB3) Contin				Prepared: 09/04/24 Analyzed: 09/05/24						
Cadmium	0.275		ng/l							
Chromium	1.48		ng/l							
Cobalt	-0.158		ng/l							U
Copper	52.2		ng/l							
Lead	2.37		ng/l							
Manganese	1.94		ng/l							
Molybdenum	7.15		ng/l							
Nickel	1.95		ng/l							
Selenium	17.6		ng/l							
Thallium	1.18		ng/l							
Vanadium	-31.7		ng/l							U
Zinc	1040		ng/l							
Calibration Blank (2409021-CCB4)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.953		ng/l							
Arsenic	-0.358		ng/l							U
Barium	1.15		ng/l							
Beryllium	-0.587		ng/l							U
Cadmium	0.436		ng/l							
Chromium	2.82		ng/l							
Cobalt	-0.293		ng/l							U
Copper	56.7		ng/l							
Lead	1.40		ng/l							
Manganese	1.32		ng/l							
Molybdenum	5.12		ng/l							
Nickel	5.27		ng/l							
Selenium	6.39		ng/l							
Thallium	0.740		ng/l							
Vanadium	-31.3		ng/l							U
Zinc	-65.0		ng/l							U
Calibration Blank (2409021-CCB5)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.434		ng/l							
Arsenic	0.682		ng/l							
Barium	1.71		ng/l							
Beryllium	-1.29		ng/l							U
Cadmium	0.571		ng/l							
Chromium	2.06		ng/l							
Cobalt	-0.0361		ng/l							U
Copper	43.5		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Blank (2409021-CCB5) Contin				Prepared: 09/04/24 Analyzed: 09/05/24						
Lead	1.39		ng/l							
Manganese	3.27		ng/l							
Molybdenum	6.09		ng/l							
Nickel	5.75		ng/l							
Selenium	7.79		ng/l							
Thallium	1.03		ng/l							
Vanadium	-29.2		ng/l							U
Zinc	-70.4		ng/l							U
Calibration Blank (2409021-CCB6)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.713		ng/l							
Arsenic	0.0191		ng/l							
Barium	3.90		ng/l							
Beryllium	-1.25		ng/l							U
Cadmium	-6.48E-4		ng/l							U
Chromium	6.82		ng/l							
Cobalt	0.191		ng/l							
Copper	37.2		ng/l							
Lead	1.82		ng/l							
Manganese	5.57		ng/l							
Molybdenum	6.66		ng/l							
Nickel	6.93		ng/l							
Selenium	2.91		ng/l							
Thallium	1.12		ng/l							
Vanadium	-30.3		ng/l							U
Zinc	195		ng/l							
Calibration Blank (2409021-CCB7)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.744		ng/l							
Arsenic	0.836		ng/l							
Barium	8.80		ng/l							
Beryllium	-1.26		ng/l							U
Cadmium	0.226		ng/l							
Chromium	5.93		ng/l							
Cobalt	0.0841		ng/l							
Copper	46.1		ng/l							
Lead	2.82		ng/l							
Manganese	8.45		ng/l							
Molybdenum	6.85		ng/l							
Nickel	9.33		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Blank (2409021-CCB7) Contin				Prepared: 09/04/24 Analyzed: 09/05/24						
Selenium	11.5		ng/l							
Thallium	1.12		ng/l							
Vanadium	-36.2		ng/l							U
Zinc	-53.2		ng/l							U
Calibration Check (2409021-CCV1)				Prepared & Analyzed: 09/04/24						
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4960		ng/l	5000.0		99.1	90-110			
Cadmium	19600		ng/l	20000		98.0	90-110			
Chromium	235000		ng/l	240000		97.8	90-110			
Cobalt	49500		ng/l	50000		99.0	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.9	90-110			
Lead	194000		ng/l	200000		97.1	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	48800		ng/l	50000		97.5	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	19100		ng/l	20000		95.4	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19300		ng/l	20000		96.5	90-110			
Zinc	497000		ng/l	500000		99.3	90-110			
Calibration Check (2409021-CCV2)				Prepared & Analyzed: 09/04/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4880		ng/l	5000.0		97.7	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	503000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Check (2409021-CCV3)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	4910		ng/l	5000.0		98.1	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2409021-CCV4)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	481		ng/l	500.00		96.1	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2409021-CCV5)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Check (2409021-CCV5) Contin				Prepared: 09/04/24 Analyzed: 09/05/24						
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	479		ng/l	500.00		95.7	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2409021-CCV6)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4910		ng/l	5000.0		98.1	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	478		ng/l	500.00		95.6	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2409021-CCV7)				Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4660		ng/l	5000.0		93.2	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Calibration Check (2409021-CCV7) Contin					Prepared: 09/04/24 Analyzed: 09/05/24					
Lead	205000		ng/l	200000		102	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	53300		ng/l	50000		107	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2409021-HCV1)					Prepared & Analyzed: 09/04/24					
Antimony	40200		ng/l	40000		100	95-105			
Arsenic	40200		ng/l	40000		101	95-105			
Barium	402000		ng/l	400000		101	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	39900		ng/l	40000		99.8	95-105			
Chromium	482000		ng/l	480000		100	95-105			
Cobalt	99700		ng/l	100000		99.7	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.7	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	238000		ng/l	240000		99.3	95-105			
Selenium	40300		ng/l	40000		101	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	995000		ng/l	1.0000E6		99.5	95-105			
Initial Cal Blank (2409021-ICB1)					Prepared & Analyzed: 09/04/24					
Antimony	0.737		ng/l							
Arsenic	-6.63		ng/l							U
Barium	-0.613		ng/l							U
Beryllium	-0.207		ng/l							U
Cadmium	0.293		ng/l							
Chromium	1.62		ng/l							
Cobalt	-0.00691		ng/l							U
Copper	60.8		ng/l							
Lead	4.36		ng/l							
Manganese	5.17		ng/l							
Molybdenum	8.61		ng/l							
Nickel	-0.289		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Initial Cal Blank (2409021-ICB1) Continu				Prepared & Analyzed: 09/04/24						
Selenium	6.24		ng/l							
Thallium	1.07		ng/l							
Vanadium	-17.2		ng/l							U
Zinc	-40.1		ng/l							U
Initial Cal Check (2409021-ICV1)				Prepared & Analyzed: 09/04/24						
Antimony	19400		ng/l	20000		97.1	90-110			
Arsenic	19600		ng/l	20000		97.9	90-110			
Barium	195000		ng/l	200000		97.4	90-110			
Beryllium	4910		ng/l	5000.0		98.3	90-110			
Cadmium	20000		ng/l	20000		99.8	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	48300		ng/l	50000		96.7	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	49600		ng/l	50000		99.1	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	19500		ng/l	20000		97.3	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Interference Check A (2409021-IFA1)				Prepared & Analyzed: 09/04/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	316000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409021 - B4I0409										
Interference Check B (2409021-IFB1)					Prepared & Analyzed: 09/04/24					
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	5100		ng/l	5000.0		102	80-120			
Cadmium	19700		ng/l	20000		98.4	80-120			
Chromium	231000		ng/l	240000		96.4	80-120			
Cobalt	48900		ng/l	50000		97.9	80-120			
Copper	1.90E6		ng/l	2.0000E6		94.8	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	367000		ng/l	350000		105	80-120			
Nickel	115000		ng/l	120000		95.8	80-120			
Selenium	19400		ng/l	20000		96.9	80-120			
Thallium	512		ng/l	500.00		102	80-120			
Vanadium	18800		ng/l	20000		94.2	80-120			
Zinc	468000		ng/l	500000		93.7	80-120			
Batch B4I0409 - ICP-MS Extraction										
Blank (B4I0409-BLK1)					Prepared & Analyzed: 09/04/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							QB-01, U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4I0409-BS1)					Prepared & Analyzed: 09/04/24					
Antimony	0.585	0.0386	ng/m³ Air	1.3829		42.3	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	28.7	1.07	ng/m³ Air	27.658		104	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
LCS (B4I0409-BS1) Continued				Prepared & Analyzed: 09/04/24						
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.2	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.1	80-120			QB-01
Copper	28.6	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.34	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.64	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.11	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.69	0.00896	ng/m³ Air	2.7658		97.2	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.2	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	88.9	76.8	ng/m³ Air	82.975		107	80-120			
Duplicate (B4I0409-DUP1)		**Source: 4090357-05**		Prepared & Analyzed: 09/04/24						
Antimony	0.0791	0.0347	ng/m³ Air		0.101			24.1	10	SL
Arsenic	1.96	0.00843	ng/m³ Air		1.92			1.92	10	
Barium	7.56	0.963	ng/m³ Air		8.79			15.1	10	
Beryllium	0.0297	0.00288	ng/m³ Air		0.0291			2.13	10	
Cadmium	ND	0.0667	ng/m³ Air		ND				10	U
Chromium	6.25	1.99	ng/m³ Air		6.52			4.18	10	
Cobalt	1.34	0.0392	ng/m³ Air		1.30			2.72	10	QB-01
Copper	272	2.37	ng/m³ Air		269			1.16	10	
Lead	0.484	0.193	ng/m³ Air		0.556			13.7	10	
Manganese	32.8	1.70	ng/m³ Air		32.6			0.688	10	
Molybdenum	8.95	0.323	ng/m³ Air		8.74			2.31	10	
Nickel	3.27	0.587	ng/m³ Air		3.24			0.783	10	
Selenium	0.263	0.00806	ng/m³ Air		0.252			4.36	10	
Thallium	0.00174	5.30E-4	ng/m³ Air		0.00176			1.26	10	
Vanadium	3.83	0.0476	ng/m³ Air		3.76			1.90	10	
Zinc	ND	69.1	ng/m³ Air		ND				10	U
Duplicate (B4I0409-DUP2)		**Source: 4090357-12**		Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.0751	0.0524	ng/m³ Air		0.105			33.3	10	SL
Arsenic	0.155	0.0127	ng/m³ Air		0.160			3.31	10	
Barium	3.36	1.45	ng/m³ Air		3.18			5.51	10	
Beryllium	0.00813	0.00434	ng/m³ Air		0.00808			0.573	10	
Cadmium	ND	0.101	ng/m³ Air		ND				10	U
Chromium	5.51	3.00	ng/m³ Air		8.01			36.9	10	
Cobalt	0.309	0.0591	ng/m³ Air		0.324			4.87	10	QB-01

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
Duplicate (B4I0409-DUP2) Continued			**Source: 4090357-12**		Prepared: 09/04/24 Analyzed: 09/05/24					
Copper	28.1	3.57	ng/m³ Air		31.3			10.6	10	
Lead	0.389	0.290	ng/m³ Air		0.439			12.0	10	
Manganese	7.42	2.56	ng/m³ Air		8.22			10.3	10	
Molybdenum	2.16	0.487	ng/m³ Air		2.25			3.92	10	
Nickel	2.28	0.884	ng/m³ Air		2.80			20.5	10	
Selenium	0.155	0.0122	ng/m³ Air		0.172			10.3	10	
Thallium	0.00107	7.99E-4	ng/m³ Air		0.00124			14.6	10	
Vanadium	0.685	0.0718	ng/m³ Air		0.734			6.86	10	
Zinc	ND	104	ng/m³ Air		ND				10	U
Duplicate (B4I0409-DUP3)			**Source: 4090357-20**		Prepared: 09/04/24 Analyzed: 09/05/24					
Antimony	ND	0.0331	ng/m³ Air		ND				10	SL, U
Arsenic	0.140	0.00804	ng/m³ Air		0.138			1.20	10	
Barium	1.80	0.918	ng/m³ Air		1.83			1.43	10	
Beryllium	0.0147	0.00275	ng/m³ Air		0.0137			7.35	10	
Cadmium	ND	0.0636	ng/m³ Air		ND				10	U
Chromium	2.30	1.90	ng/m³ Air		2.35			1.90	10	
Cobalt	0.202	0.0374	ng/m³ Air		0.203			0.786	10	QB-01
Copper	89.2	2.26	ng/m³ Air		90.5			1.44	10	
Lead	0.195	0.184	ng/m³ Air		0.199			1.81	10	
Manganese	4.87	1.62	ng/m³ Air		4.95			1.50	10	
Molybdenum	3.77	0.308	ng/m³ Air		3.80			0.731	10	
Nickel	1.21	0.560	ng/m³ Air		1.23			1.25	10	
Selenium	0.165	0.00769	ng/m³ Air		0.171			3.86	10	
Thallium	0.00123	5.05E-4	ng/m³ Air		0.00129			4.56	10	
Vanadium	0.434	0.0454	ng/m³ Air		0.443			2.06	10	
Zinc	ND	65.9	ng/m³ Air		ND				10	U
Duplicate (B4I0409-DUP4)			**Source: 4090357-28**		Prepared: 09/04/24 Analyzed: 09/05/24					
Antimony	0.114	0.0296	ng/m³ Air		0.118			2.96	10	SL
Arsenic	0.316	0.00719	ng/m³ Air		0.329			4.08	10	
Barium	5.07	0.821	ng/m³ Air		5.21			2.71	10	
Beryllium	0.0123	0.00245	ng/m³ Air		0.0122			0.359	10	
Cadmium	ND	0.0568	ng/m³ Air		ND				10	U
Chromium	2.46	1.70	ng/m³ Air		2.52			2.36	10	
Cobalt	0.431	0.0334	ng/m³ Air		0.441			2.29	10	QB-01
Copper	48.4	2.02	ng/m³ Air		49.6			2.45	10	
Lead	0.917	0.164	ng/m³ Air		0.930			1.44	10	
Manganese	12.1	1.45	ng/m³ Air		12.3			1.33	10	
Molybdenum	3.92	0.275	ng/m³ Air		4.01			2.26	10	

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FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
Duplicate (B4I0409-DUP4) Continued		**Source: 4090357-28**		Prepared: 09/04/24 Analyzed: 09/05/24						
Nickel	1.44	0.500	ng/m³ Air		1.46			1.85	10	
Selenium	0.244	0.00687	ng/m³ Air		0.247			1.35	10	
Thallium	0.00502	4.52E-4	ng/m³ Air		0.00513			2.18	10	
Vanadium	1.67	0.0406	ng/m³ Air		1.69			1.47	10	
Zinc	ND	58.9	ng/m³ Air		ND				10	U
Matrix Spike (B4I0409-MS1)		**Source: 4090357-05**		Prepared & Analyzed: 09/04/24						
Antimony	0.690	0.0347	ng/m³ Air	1.2445	0.101	47.4	80-120			SL
Arsenic	4.50	0.00843	ng/m³ Air	2.4890	1.92	103	80-120			
Barium	32.9	0.963	ng/m³ Air	24.890	8.79	96.7	80-120			
Beryllium	1.23	0.00288	ng/m³ Air	1.2445	0.0291	96.1	80-120			
Cadmium	1.28	0.0667	ng/m³ Air	1.2445	ND	103	80-120			
Chromium	18.6	1.99	ng/m³ Air	12.445	6.52	96.7	80-120			
Cobalt	2.53	0.0392	ng/m³ Air	1.2445	1.30	99.0	80-120			QB-01
Copper	296	2.37	ng/m³ Air	24.890	269	108	80-120			
Lead	12.9	0.193	ng/m³ Air	12.445	0.556	98.9	80-120			
Manganese	40.8	1.70	ng/m³ Air	7.4669	32.6	109	80-120			
Molybdenum	10.1	0.323	ng/m³ Air	1.2445	8.74	113	80-120			
Nickel	5.71	0.587	ng/m³ Air	2.4890	3.24	99.0	80-120			
Selenium	2.62	0.00806	ng/m³ Air	2.4890	0.252	95.0	80-120			
Thallium	0.117	5.30E-4	ng/m³ Air	0.12445	0.00176	92.5	80-120			
Vanadium	6.22	0.0476	ng/m³ Air	2.4890	3.76	98.8	80-120			
Zinc	88.1	69.1	ng/m³ Air	74.669	ND	118	80-120			
Matrix Spike (B4I0409-MS2)		**Source: 4090357-12**		Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.882	0.0524	ng/m³ Air	1.8760	0.105	41.4	80-120			SL
Arsenic	3.88	0.0127	ng/m³ Air	3.7520	0.160	99.0	80-120			
Barium	42.4	1.45	ng/m³ Air	37.520	3.18	105	80-120			
Beryllium	1.78	0.00434	ng/m³ Air	1.8760	0.00808	94.7	80-120			
Cadmium	1.91	0.101	ng/m³ Air	1.8760	ND	102	80-120			
Chromium	22.2	3.00	ng/m³ Air	18.760	8.01	75.5	80-120			QM-07
Cobalt	2.09	0.0591	ng/m³ Air	1.8760	0.324	94.2	80-120			QB-01
Copper	67.5	3.57	ng/m³ Air	37.520	31.3	96.5	80-120			
Lead	19.3	0.290	ng/m³ Air	18.760	0.439	100	80-120			
Manganese	18.7	2.56	ng/m³ Air	11.256	8.22	92.9	80-120			
Molybdenum	4.06	0.487	ng/m³ Air	1.8760	2.25	96.5	80-120			
Nickel	4.77	0.884	ng/m³ Air	3.7520	2.80	52.4	80-120			QM-07
Selenium	3.79	0.0122	ng/m³ Air	3.7520	0.172	96.4	80-120			
Thallium	0.187	7.99E-4	ng/m³ Air	0.18760	0.00124	98.8	80-120			
Vanadium	4.45	0.0718	ng/m³ Air	3.7520	0.734	99.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
Matrix Spike (B4I0409-MS2) Continued	**Source: 4090357-12**			Prepared: 09/04/24	Analyzed: 09/05/24					
Zinc	126	104	ng/m³ Air	112.56	ND	112	80-120			
Matrix Spike Dup (B4I0409-MSD1)	**Source: 4090357-05**			Prepared & Analyzed: 09/04/24						
Antimony	0.693	0.0347	ng/m³ Air	1.2445	0.101	47.6	80-120	0.352	20	SL
Arsenic	4.41	0.00843	ng/m³ Air	2.4890	1.92	99.7	80-120	2.09	20	
Barium	32.9	0.963	ng/m³ Air	24.890	8.79	96.8	80-120	0.0744	20	
Beryllium	1.23	0.00288	ng/m³ Air	1.2445	0.0291	96.4	80-120	0.264	20	
Cadmium	1.27	0.0667	ng/m³ Air	1.2445	ND	102	80-120	0.522	20	
Chromium	18.5	1.99	ng/m³ Air	12.445	6.52	96.1	80-120	0.419	20	
Cobalt	2.51	0.0392	ng/m³ Air	1.2445	1.30	97.5	80-120	0.706	20	QB-01
Copper	306	2.37	ng/m³ Air	24.890	269	150	80-120	3.41	20	QM-4X
Lead	12.8	0.193	ng/m³ Air	12.445	0.556	98.3	80-120	0.628	20	
Manganese	40.9	1.70	ng/m³ Air	7.4669	32.6	112	80-120	0.410	20	
Molybdenum	10.3	0.323	ng/m³ Air	1.2445	8.74	128	80-120	1.83	20	QM-4X
Nickel	5.65	0.587	ng/m³ Air	2.4890	3.24	96.8	80-120	0.983	20	
Selenium	2.67	0.00806	ng/m³ Air	2.4890	0.252	97.0	80-120	1.88	20	
Thallium	0.117	5.30E-4	ng/m³ Air	0.12445	0.00176	92.5	80-120	0.0147	20	
Vanadium	6.19	0.0476	ng/m³ Air	2.4890	3.76	97.8	80-120	0.408	20	
Zinc	85.8	69.1	ng/m³ Air	74.669	ND	115	80-120	2.64	20	
Matrix Spike Dup (B4I0409-MSD2)	**Source: 4090357-12**			Prepared: 09/04/24	Analyzed: 09/05/24					
Antimony	0.796	0.0524	ng/m³ Air	1.8760	0.105	36.8	80-120	10.2	20	SL
Arsenic	3.81	0.0127	ng/m³ Air	3.7520	0.160	97.2	80-120	1.80	20	
Barium	40.8	1.45	ng/m³ Air	37.520	3.18	100	80-120	3.81	20	
Beryllium	1.82	0.00434	ng/m³ Air	1.8760	0.00808	96.8	80-120	2.27	20	
Cadmium	1.86	0.101	ng/m³ Air	1.8760	ND	99.0	80-120	2.63	20	
Chromium	22.2	3.00	ng/m³ Air	18.760	8.01	75.8	80-120	0.300	20	QM-07
Cobalt	2.10	0.0591	ng/m³ Air	1.8760	0.324	94.8	80-120	0.531	20	QB-01
Copper	63.8	3.57	ng/m³ Air	37.520	31.3	86.7	80-120	5.61	20	
Lead	19.0	0.290	ng/m³ Air	18.760	0.439	98.9	80-120	1.40	20	
Manganese	18.3	2.56	ng/m³ Air	11.256	8.22	89.3	80-120	2.25	20	
Molybdenum	4.30	0.487	ng/m³ Air	1.8760	2.25	109	80-120	5.82	20	
Nickel	4.96	0.884	ng/m³ Air	3.7520	2.80	57.7	80-120	4.07	20	QM-07
Selenium	3.74	0.0122	ng/m³ Air	3.7520	0.172	95.2	80-120	1.16	20	
Thallium	0.184	7.99E-4	ng/m³ Air	0.18760	0.00124	97.3	80-120	1.56	20	
Vanadium	4.40	0.0718	ng/m³ Air	3.7520	0.734	97.8	80-120	1.04	20	
Zinc	123	104	ng/m³ Air	112.56	ND	109	80-120	2.18	20	
Post Spike (B4I0409-PS1)	**Source: 4090357-05**			Prepared & Analyzed: 09/04/24						
Antimony	0.347	0.0347	ng/m³ Air	0.24890	0.101	98.7	75-125			SL
Arsenic	3.10	0.00843	ng/m³ Air	1.2445	1.92	94.2	75-125			

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
Post Spike (B4I0409-PS1) Continued		**Source: 4090357-05**		Prepared & Analyzed: 09/04/24						
Barium	11.2	0.963	ng/m³ Air	2.4890	8.79	94.9	75-125			
Beryllium	0.267	0.00288	ng/m³ Air	0.24890	0.0291	95.7	75-125			
Cadmium	0.171	0.0667	ng/m³ Air	0.12445	ND	137	75-125			
Chromium	7.67	1.99	ng/m³ Air	1.2445	6.52	92.6	75-125			
Cobalt	1.55	0.0392	ng/m³ Air	0.24890	1.30	99.3	75-125			QB-01
Copper	282	2.37	ng/m³ Air	12.445	269	105	75-125			
Lead	25.3	0.193	ng/m³ Air	24.890	0.556	99.3	75-125			
Manganese	35.3	1.70	ng/m³ Air	2.4890	32.6	109	75-125			
Molybdenum	9.91	0.323	ng/m³ Air	1.2445	8.74	93.5	75-125			
Nickel	5.72	0.587	ng/m³ Air	2.4890	3.24	99.7	75-125			
Selenium	1.42	0.00806	ng/m³ Air	1.2445	0.252	94.3	75-125			
Thallium	0.0586	5.30E-4	ng/m³ Air	6.2224E-2	0.00176	91.4	75-125			
Vanadium	4.93	0.0476	ng/m³ Air	1.2445	3.76	94.4	75-125			
Zinc	ND	69.1	ng/m³ Air	24.890	ND		75-125			U
Post Spike (B4I0409-PS2)		**Source: 4090357-12**		Prepared: 09/04/24 Analyzed: 09/05/24						
Antimony	0.472	0.0524	ng/m³ Air	0.37520	0.105	97.7	75-125			SL
Arsenic	1.95	0.0127	ng/m³ Air	1.8760	0.160	95.5	75-125			
Barium	6.82	1.45	ng/m³ Air	3.7520	3.18	97.1	75-125			
Beryllium	0.366	0.00434	ng/m³ Air	0.37520	0.00808	95.5	75-125			
Cadmium	0.205	0.101	ng/m³ Air	0.18760	ND	109	75-125			
Chromium	9.84	3.00	ng/m³ Air	1.8760	8.01	97.7	75-125			
Cobalt	0.687	0.0591	ng/m³ Air	0.37520	0.324	96.6	75-125			QB-01
Copper	50.4	3.57	ng/m³ Air	18.760	31.3	102	75-125			
Lead	38.3	0.290	ng/m³ Air	37.520	0.439	101	75-125			
Manganese	11.8	2.56	ng/m³ Air	3.7520	8.22	95.7	75-125			
Molybdenum	4.10	0.487	ng/m³ Air	1.8760	2.25	98.4	75-125			
Nickel	6.57	0.884	ng/m³ Air	3.7520	2.80	101	75-125			
Selenium	2.01	0.0122	ng/m³ Air	1.8760	0.172	98.0	75-125			
Thallium	0.0925	7.99E-4	ng/m³ Air	9.3801E-2	0.00124	97.3	75-125			
Vanadium	2.56	0.0718	ng/m³ Air	1.8760	0.734	97.5	75-125			
Zinc	ND	104	ng/m³ Air	37.520	ND		75-125			U
Dilution Check (B4I0409-SRL1)		**Source: 4090357-05**		Prepared & Analyzed: 09/04/24						
Antimony	ND	0.174	ng/m³ Air		ND				10	SL, U
Arsenic	1.91	0.0422	ng/m³ Air		1.92			0.561	10	
Barium	8.68	4.81	ng/m³ Air		8.79			1.25	10	
Beryllium	0.0275	0.0144	ng/m³ Air		0.0291			5.65	10	
Cadmium	ND	0.333	ng/m³ Air		ND				10	U
Chromium	ND	9.94	ng/m³ Air		ND				10	U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I0409 - ICP-MS Extraction										
Dilution Check (B4I0409-SRL1) Continued			**Source: 4090357-05**		Prepared & Analyzed: 09/04/24					
Cobalt	1.32	0.196	ng/m³ Air		1.30			1.66	10	QB-01
Copper	267	11.8	ng/m³ Air		269			0.854	10	
Lead	ND	0.963	ng/m³ Air		ND				10	U
Manganese	33.1	8.50	ng/m³ Air		32.6			1.55	10	
Molybdenum	8.94	1.62	ng/m³ Air		8.74			2.25	10	
Nickel	3.31	2.93	ng/m³ Air		3.24			2.22	10	
Selenium	0.298	0.0403	ng/m³ Air		0.252			17.0	10	SRD-01
Thallium	0.00555	0.00265	ng/m³ Air		ND			104	10	
Vanadium	3.76	0.238	ng/m³ Air		3.76			0.192	10	
Zinc	ND	346	ng/m³ Air		ND				10	U
Dilution Check (B4I0409-SRL2)			**Source: 4090357-12**		Prepared: 09/04/24 Analyzed: 09/05/24					
Antimony	ND	0.262	ng/m³ Air		ND				10	SL, U
Arsenic	0.161	0.0636	ng/m³ Air		0.160			0.533	10	
Barium	ND	7.26	ng/m³ Air		ND				10	U
Beryllium	ND	0.0217	ng/m³ Air		ND				10	U
Cadmium	ND	0.503	ng/m³ Air		ND				10	U
Chromium	ND	15.0	ng/m³ Air		ND				10	U
Cobalt	0.337	0.296	ng/m³ Air		0.324			3.88	10	QB-01
Copper	32.2	17.8	ng/m³ Air		31.3			2.79	10	
Lead	ND	1.45	ng/m³ Air		ND				10	U
Manganese	ND	12.8	ng/m³ Air		ND				10	U
Molybdenum	ND	2.44	ng/m³ Air		ND				10	U
Nickel	ND	4.42	ng/m³ Air		ND				10	U
Selenium	0.155	0.0608	ng/m³ Air		0.172			10.2	10	
Thallium	ND	0.00400	ng/m³ Air		ND				10	U
Vanadium	0.778	0.359	ng/m³ Air		0.734			5.89	10	
Zinc	ND	521	ng/m³ Air		ND				10	U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/10/24 14:12
SUBMITTED: 09/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/11/2024 and Shanna Vasser 09/12/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/22/2024 – 08/28/2024
Report No: 4090357

√	1.	Chain of custody (CoC) documentation is present.
X	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. The sample time for MFL-AM06-082524-HM was cut short due to inclement weather and the laboratory noted that it appeared to have water damage. MFL-AM02-082824-HM and MFL-AM03-082824-HM had the same filter IDs; therefore, the sample IDs were used to differentiate the samples.
4. MFL-AM02-082324-HM was listed on the CoC, but crossed off, voided (due to runtime uncertainty), and not shipped to the laboratory.
13. Field blank detections above the method detection limit were reported for arsenic, cobalt, molybdenum, and vanadium in MFL-FB01-082524-HM and for arsenic in MFL-FB01-082724-HM.

Notes:

1. MFL-AM05-082524-HM and MFL-AM02-082524-HM were analyzed at a four-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

August 29 through September 4, 2024
[Report Updated: March 31, 2025]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Particulate monitoring and air sampling occurred at all the community locations listed below and shown in **Figure 1**:

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Skate Park (AM-06)

Particulate monitoring took place each day while air sampling was paused in observance of the Labor Day holiday and samples were not collected or placed on September 2. As a result, asbestos and metals sampling data is unavailable on September 1 and September 2. Sample deployment and Tetra Tech field team observations resumed on September 3.

The CAMSP addressed ambient community air monitoring and sampling that would be performed to assess conditions and determine whether debris removal activities, (managed by the U.S. Army Corps of Engineers (USACE), and private contractors) significantly impacted air quality in Lahaina. Data collected was made available to the Hawaii Department of Health (HDOH) through an online shared site and by the information presented in weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 29 through September 4 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exceptions of periods when sampling locations were relocated and during instances of equipment faults, as described below:

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) experienced power interruptions from a tripped electrical circuit on the evenings of September 2, September 3, and September 4. As a result, the intended air monitoring periods of 24 hours were interrupted as described below:
    - On September 2, air monitoring was conducted for only 19 hours.
    - On September 3, air monitoring was conducted for only 15 hours.
    - On September 4, air monitoring was conducted for only 17 hours.
- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) was relocated and moved 151 feet east from the original location at the guidance of the HDOH on September 4 to increase the distance and disturbance from the active highway. As a result, the intended air monitoring periods of 24 hours were interrupted as described below:
    - On September 4, air monitoring was conducted for only 17 hours.
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 2, air monitoring was conducted at Opukea Townhomes (Location ID AM-05) for only 21 hours.
    - On September 2, air monitoring was conducted at WW Pump Station #4 (Location ID AM-02) for only 22 hours.
    - On September 2, air monitoring was conducted at Lahaina Intermediate School (Location ID AM-03) for only 17 hours.
    - On September 3, air monitoring was conducted at Lahaina Intermediate School for only 17 hours.

The equipment fault codes at Opukea Townhomes (Location ID AM-05), WW Pump Station #4 (Location ID AM-02), and Lahaina Intermediate School (Location ID AM-03) were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption caused a shortened monitoring duration which was addressed in the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 $\mu g/m^3$ TWA screening level five times, all at the Lahaina Skate Park monitoring location (i.e., on August 29, 30, and on September 2 through 4 as shown in **Table 1**. **(rev. December 4, 2024)**

The air monitoring and sampling station at Lahaina Skate Park is located approximately 55 feet east of the highway. Exceedances were most likely attributable to the proximity of private contractors working in the area, and from active traffic observed from the nearby highway. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. The exceedances on August 29, 30, and on September 2 through 4 are described below:

- On August 29, private contractors were observed working approximately 300 yards north of the monitoring station. No visible dust was observed at the site. The private contractors were observed using water for dust suppression. The elevated readings were noted in the early morning and late-night hours of the day. The exceedance was most likely attributed to active traffic from the nearby highway.
- On August 30, a county crew was observed working around the pool area approximately 300 yards north of the monitoring station. No visible dust was observed, and water was being sprayed to suppress dust while work was conducted. Elevated particulate readings occurred during the 0:00, 06:00, 08:00, and 10:00 time blocks. These exceedances could have been attributed to road traffic noted at those times and possibly from crews setting up when they arrived.

- In observance of the Labor Day holiday, no Tetra Tech field teams or USACE crews were active on September 2. Given that no USACE crew activities were taking place on that day the September 2 exceedance was most likely attributed to active traffic from the nearby highway.
- On September 3, a county crew was observed breaking up concrete at the aquatic center near the monitoring station. Visible dust was observed originating from the county crew activities and no dust suppression methods were observed to have been used that day. As a result, the county crew's activities coupled with active traffic from the nearby highway likely contributed to the noted exceedance on September 3.
- This air monitoring and sampling station was moved approximately 150 feet east of its original position on September 4 to distance the station further from the active highway. However, despite this change, a TWA screening level exceedance was again noted at the Lahaina Skate Park location on September 4. On that day, a county crew was observed breaking up concrete at the aquatic center near the monitoring station. No visible dust was observed originating from the county crew activities and no dust suppression methods were observed to have been used. The elevated readings took place in the early morning hours, with the highest taking place at 08:00. Active traffic from the nearby highway on September 4 most likely contributed to this exceedance.

Air Sampling Results

A total of 20 samples for asbestos fibers were collected during this reporting period. In observance of the Labor Day Holiday on September 2, no air samples were deployed at any of the four air sampling stations on September 1 or 2 nor collected on September 2 or 3. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on August 31
- WW Pump Station #4 on August 31
- Lahaina Intermediate School on August 29
- Lahaina Skate Park on August 29

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all four community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

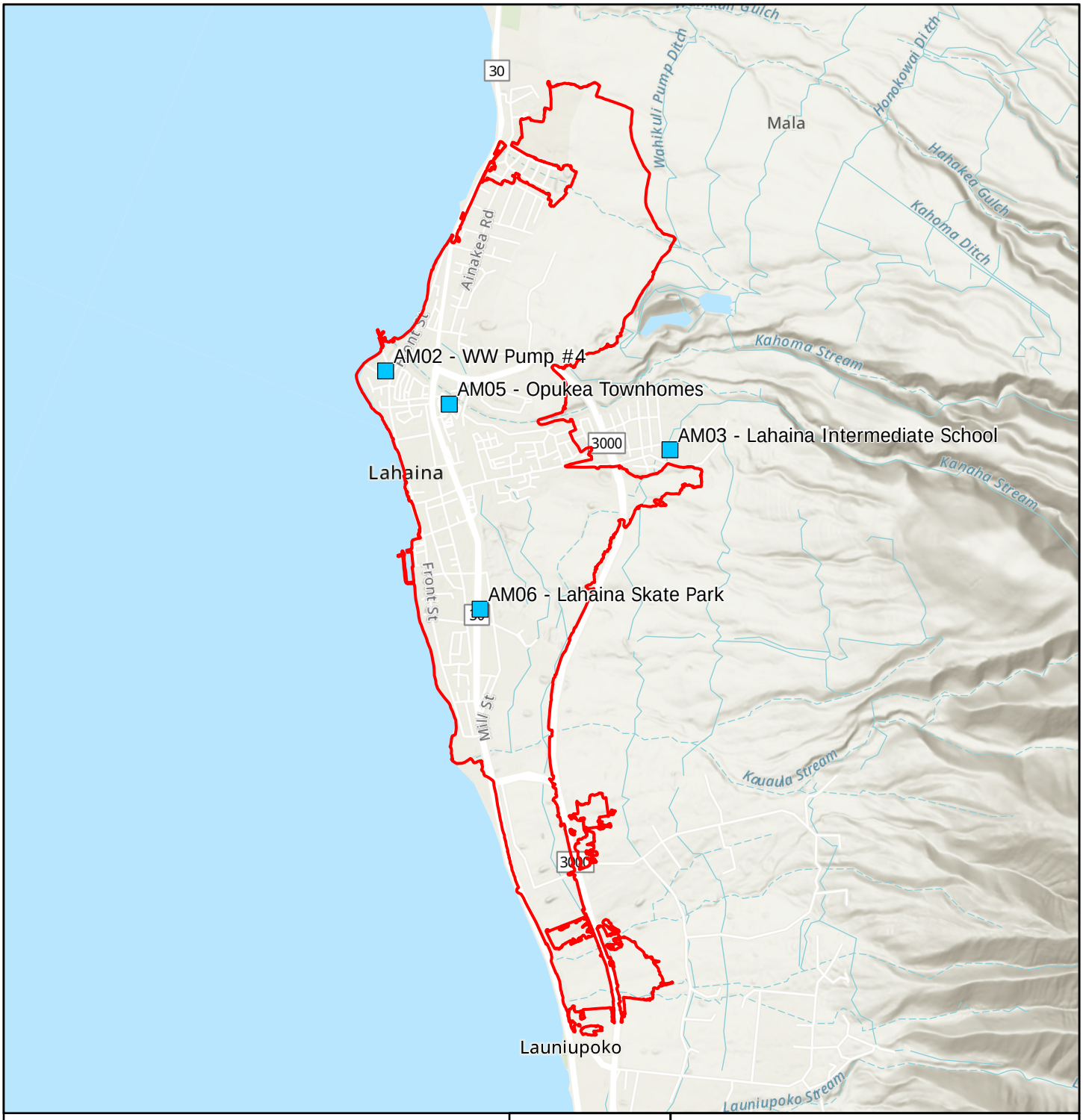
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
August 29 through September 4, 2024
[Report Updated: March 31, 2025]

Screening Level		TWA Results 150 (µg/m^3)
8/29/2024	Opukea Townhomes (AM-05)	6.8
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Skate Park (AM-06)	**217**
8/30/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	18
	Lahaina Skate Park (AM-06)	**183**
8/31/2024	Opukea Townhomes (AM-05)	9.5
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Skate Park (AM-06)	15
9/1/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	11
	Lahaina Skate Park (AM-06)	15
9/2/2024	Opukea Townhomes (AM-05)	9*
	WW Pump Station #4 (AM-02)	8.8*
	Lahaina Intermediate School (AM-03)	8*
	Lahaina Skate Park (AM-06)	**176****
9/3/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	13*
	Lahaina Skate Park (AM-06)	**258****
9/4/2024	Opukea Townhomes (AM-05)	9.9
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Skate Park (AM-06)	**181****

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Exceedance
*Data provided were from a reduced TWA calculation because of an equipment disruption
** Data provided were from a reduced TWA calculation as a result of a power failure cause by a tripped electrical circuit.
Results from WW Pump Station #4 on 9/2 have been revised from previously submitted report.
Results from Lahaina Intermediate School on 9/2 have been revised from previously submitted report.
Results from Opukea Townhomes on 9/4 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 29 through September 4, 2024
[Report Updated: March 31, 2025]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
8/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000696	0.000309	0.00247	0.00000686	ND	ND	0.000219	0.0705	0.000907	0.00618	0.00207	0.000865	0.000173	0.00000219	0.000740	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000531	0.000201	0.00206	0.00000585	ND	ND	0.000164	0.0425	0.000474	0.00534	0.00368	0.000637	0.000181	0.00000226	0.000588	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000408	0.000146	0.00222	0.0000231	ND	0.00230	0.000355	0.0802	0.000259	0.00861	0.00264	0.00124	0.000160	0.00000207	0.000847	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000149	0.000226	0.00661	0.00000786	ND	0.00253	0.000334	0.0726	0.000853	0.0102	0.00225	0.00114	0.000154	0.00000188	0.000941	ND
8/30/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000857	0.000281	0.00385	0.0000120	ND	0.00300	0.000555	0.0809	0.000638	0.0131	0.00213	0.00197	0.000144	0.00000123	0.00147	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000385	0.00468	0.0000173	ND	0.00327	0.000623	0.0551	0.00120	0.0173	0.00349	0.00207	0.000176	0.00000150	0.00184	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000490	0.000103	0.00195	0.0000161	ND	0.00199	0.000282	0.0796	0.000155	0.00720	0.00259	0.00116	0.000141	0.000000920	0.000584	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000213	0.000310	0.00819	0.00000920	ND	0.00516	0.000561	0.0304	0.000729	0.0112	0.00130	0.0108	0.000125	0.00000113	0.000835	ND
8/31/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000591	0.000265	0.00256	0.00000500	ND	0.00198	0.000133	0.0290	0.000610	0.00397	0.00131	0.000928	0.000192	0.000000619	0.000528	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000561	0.000301	0.00172	0.00000354	ND	ND	0.0000899	0.0232	0.000360	0.00254	0.000990	0.000554	0.000195	0.000000599	0.000467	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000478	0.000109	0.00249	0.0000108	ND	0.00199	0.000226	0.0468	0.000410	0.00539	0.00174	0.00145	0.000177	0.000000862	0.000618	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000160	0.000312	0.00477	0.00000663	0.000105	0.00593	0.000288	0.0555	0.000917	0.00717	0.00233	0.00396	0.000172	0.00000150	0.000731	ND
9/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000404	0.000160	0.00175	0.00000303	ND	ND	0.0000820	0.0243	0.000487	0.00224	0.00110	0.000586	0.000158	0.000000779	0.000619	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000808	0.000220	0.00323	0.00000563	ND	ND	0.000145	0.0219	0.000664	0.00491	0.00101	0.000786	0.000224	0.00000106	0.00103	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000100	0.00182	0.0000110	ND	0.00273	0.000252	0.0454	0.000230	0.00543	0.00151	0.00149	0.000171	0.000000991	0.000737	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000112	0.000180	0.00428	0.00000365	0.0000772	0.00290	0.000161	0.0461	0.000729	0.00358	0.00176	0.00104	0.000165	0.000000884	0.000662	ND
9/2/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Skate Park (AM-06)																	
9/3/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Skate Park (AM-06)																	
9/4/2024	Opukea Townhomes (AM-05)	<0.0024	0.000318	0.00126	0.00712	0.0000163	ND	0.00329	0.000579	0.0359	0.00184	0.0185	0.00148	0.00177	0.000211	0.00000199	0.00182	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000127	0.000241	0.00408	0.0000105	ND	0.00263	0.000414	0.0219	0.000439	0.0103	0.00100	0.00126	0.000208	0.000000904	0.00143	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000404	0.000168	0.00318	0.0000212	ND	0.00285	0.000364	0.0369	0.000272	0.00951	0.00146	0.00133	0.000188	0.000000932	0.00116	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000230	0.000261	0.00516	0.00000868	ND	0.00397	0.000306	0.0481	0.000884	0.00945	0.00154	0.00220	0.000171	0.00000107	0.000998	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000350	0.00464	0.0000230	NA	0.00395	0.000420	0.0581	0.000890	0.0108	0.00222	0.00244	0.000190	0.00000150	0.00111	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Labor Day holiday observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
August 29 through September 4, 2024
[Report Updated: March 31, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/29/2024	AM-02	WW Pump Station #4	1.0	SSE	83	71	762.0
8/29/2024	AM-03	Lahaina Intermediate School	1.3	SE	83	68	752.5
8/29/2024	AM-05	Opukea Townhomes	1.5	SE	86	68	761.2
8/29/2024	AM-06	Lahaina Skate Park	1.2	SSE	83	71	761.7
8/30/2024	AM-02	WW Pump Station #4	1.3	S	80	82	761.9
8/30/2024	AM-03	Lahaina Intermediate School	1.9	SSE	80	77	752.4
8/30/2024	AM-05	Opukea Townhomes	2.1	SE	83	78	761.1
8/30/2024	AM-06	Lahaina Skate Park	1.8	SSE	81	80	761.7
8/31/2024	AM-02	WW Pump Station #4	0.9	S	83	76	763.4
8/31/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	71	753.9
8/31/2024	AM-05	Opukea Townhomes	1.1	SSE	86	72	762.6
8/31/2024	AM-06	Lahaina Skate Park	1.3	S	83	74	763.1
9/1/2024	AM-02	WW Pump Station #4	1.0	S	82	72	763.4
9/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	68	753.9
9/1/2024	AM-05	Opukea Townhomes	1.0	SSE	86	69	762.5
9/1/2024	AM-06	Lahaina Skate Park	1.2	S	82	73	763.1
9/2/2024	AM-02	WW Pump Station #4	1.1	S	82	69	762.8
9/2/2024	AM-03	Lahaina Intermediate School	0.9	ESE	81	67	753.7
9/2/2024	AM-05	Opukea Townhomes	1.3	SSE	86	64	761.9
9/2/2024	AM-06	Lahaina Skate Park	1.4	S	82	69	762.6
9/3/2024	AM-02	WW Pump Station #4	1.1	S	81	69	762.5
9/3/2024	AM-03	Lahaina Intermediate School	1.4	SE	83	62	752.9
9/3/2024	AM-05	Opukea Townhomes	1.3	SSE	85	65	761.7
9/3/2024	AM-06	Lahaina Skate Park	1.4	S	84	65	762.1
9/4/2024	AM-02	WW Pump Station #4	1.0	S	81	67	761.6
9/4/2024	AM-03	Lahaina Intermediate School	1.3	ESE	81	64	752.1
9/4/2024	AM-05	Opukea Townhomes	1.4	SE	84	64	760.7
9/4/2024	AM-06	Lahaina Skate Park	1.0	S	81	67	761.2

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-082924-AB** **Sample Description: DL275063**

EMSL Sample Number:	042418461-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0001 **Customer Sample:** MFL-AM05-082924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J7	None Detected									
B1	E7	None Detected									
B1	A4	None Detected									
B2	H4	None Detected									
B2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082924-AB**		**Sample Description:**	**DL274994**
EMSL Sample Number:	042418461-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0002 **Customer Sample:** MFL-AM02-082924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	C5	None Detected									
B5	G7	None Detected									
B5	J5	None Detected									
B6	G8	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082924-AB**		**Sample Description:**	**DL275005**
EMSL Sample Number:	042418461-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0003 **Customer Sample:** MFL-AM03-082924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	I3	None Detected									
C2	E4	None Detected									
C2	A6	None Detected									
C3	G9	None Detected									
C3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082924-AB**		**Sample Description:**	**DL275002**
EMSL Sample Number:	042418461-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0004 **Customer Sample:** MFL-AM06-082924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J7	None Detected									
C5	G3	None Detected									
C5	B6	None Detected									
C6	J7	None Detected									
C6	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082924-AB** **Sample Description: DL275012**

EMSL Sample Number:	042418461-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0005 **Customer Sample:** MFL-FB01-082924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A2	None Detected									
D1	D6	None Detected									
D1	F3	None Detected									
D1	H8	None Detected									
D2	J3	None Detected									
D2	G5	None Detected									
D2	B7	None Detected									
D3	H8	None Detected									
D3	E4	None Detected									
D3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-083024-AB**		**Sample Description:**	**DL274922**
EMSL Sample Number:	042418461-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0006 **Customer Sample:** MFL-AM05-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I4	None Detected									
D5	F6	None Detected									
D5	B3	None Detected									
D6	D7	None Detected									
D6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-083024-AB**	**Sample Description:**	**DL274975**
EMSL Sample Number:	042418461-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7216.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0007 **Customer Sample:** MFL-AM02-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C4	None Detected									
E1	F9	None Detected									
E1	I6	None Detected									
E3	H10	None Detected									
E3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-083024-AB**		**Sample Description:**	**DL275055**
EMSL Sample Number:	042418461-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0008 **Customer Sample:** MFL-AM03-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H7	None Detected									
E5	G4	None Detected									
E5	B6	None Detected									
E6	I3	None Detected									
E6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-083024-AB**		**Sample Description:**	**DL275079**
EMSL Sample Number:	042418461-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0009 **Customer Sample:** MFL-AM06-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J4	None Detected									
F1	E5	None Detected									
F1	B8	None Detected									
F2	G7	None Detected									
F2	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-083024-AB** **Sample Description: DL274979**

EMSL Sample Number:	042418461-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0010 **Customer Sample:** MFL-FB01-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I3	None Detected									
F5	H7	None Detected									
F5	F4	None Detected									
F5	C6	None Detected									
F6	J4	None Detected									
F6	G8	None Detected									
F6	A5	None Detected									
F7	B2	None Detected									
F7	D5	None Detected									
F7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-083124-AB**		**Sample Description:**	**DL275018**
EMSL Sample Number:	042418461-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0011 **Customer Sample:** MFL-AM05-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A4	None Detected									
G1	F6	None Detected									
G1	H3	None Detected									
G2	C7	None Detected									
G2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-083124-AB**		**Sample Description:**	**DL275098**
EMSL Sample Number:	042418461-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0012 **Customer Sample:** MFL-AM02-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	G9	None Detected									
G5	F4	None Detected									
G5	A5	None Detected									
G6	C8	None Detected									
G6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-083124-AB**		**Sample Description:**	**DL274945**
EMSL Sample Number:	042418461-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0013 **Customer Sample:** MFL-AM03-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J3	None Detected									
H1	E7	None Detected									
H1	A8	None Detected									
H2	G4	None Detected									
H2	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM06-083124-AB** **Sample Description: DL274999**

EMSL Sample Number:	042418461-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042418461**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0014 **Customer Sample:** MFL-AM06-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B2	None Detected									
H5	E7	None Detected									
H5	I4	None Detected									
H6	G6	None Detected									
H6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-083124-AB** **Sample Description: DL275031**

EMSL Sample Number:	042418461-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0015 **Customer Sample:** MFL-FB01-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A4	None Detected									
I1	D2	None Detected									
I1	F6	None Detected									
I1	I8	None Detected									
I2	C9	None Detected									
I2	E5	None Detected									
I2	J3	None Detected									
I3	A1	None Detected									
I3	A5	None Detected									
I3	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090124-AB**		**Sample Description:**	**DL274913**
EMSL Sample Number:	042418461-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7150.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0016 **Customer Sample:** MFL-AM05-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	G4	None Detected									
I5	C7	None Detected									
I6	H9	None Detected									
I6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090124-AB**		**Sample Description:**	**DL275049**
EMSL Sample Number:	042418461-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0017 **Customer Sample:** MFL-AM02-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A7	None Detected									
J2	E4	None Detected									
J2	H8	None Detected									
J3	G3	None Detected									
J3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090124-AB**		**Sample Description:**	**DL274891**
EMSL Sample Number:	042418461-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0018 **Customer Sample:** MFL-AM03-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A9	None Detected									
J5	D5	None Detected									
J5	H8	None Detected									
J6	I2	None Detected									
J6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090124-AB**		**Sample Description:**	**DL275069**
EMSL Sample Number:	042418461-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0019 **Customer Sample:** MFL-AM06-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A6	None Detected									
K2	D4	None Detected									
K2	G3	None Detected									
K3	H8	None Detected									
K3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090124-AB**		**Sample Description:**	**DL274918**
EMSL Sample Number:	042418461-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0020 **Customer Sample:** MFL-FB01-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J3	None Detected									
K5	H1	None Detected									
K5	F4	None Detected									
K5	D5	None Detected									
K5	B3	None Detected									
K6	A7	None Detected									
K6	C10	None Detected									
K6	E8	None Detected									
K6	G8	None Detected									
K6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042418461-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418461-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B6	None Detected									
A1	E4	None Detected									
A1	J8	None Detected									
A2	A4	None Detected									
A2	D8	None Detected									
A2	F3	None Detected									
A2	H5	None Detected									
A3	C9	None Detected									
A3	F6	None Detected									
A3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042418461

Asbestos Chain of Custody (Air, Bulk, Soil)

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TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042418461

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

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CINNAMINSON, NJ
24 SEP -5 AM 11:05

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Mavi Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

TEM - Bulk

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-082924-AB	DL275063	7,158.695	08/29/24 1101
MFL-AM02-082924-AB	DL274994	7,129.532	08/29/24 1121
MFL-AM03-082924-AB	DL275005	7,203.517	08/29/24 1303
MFL-AM06-082924-AB	DL275002	7,198.416	08/29/24 1326
MFL-FB01-082924-AB	DL275012	0	08/29/24 1200
MFL-AM05-083024-AB	DL274922	7,145.269	08/30/24 1055
MFL-AM02-083024-AB	DL274975	7,216.118	08/30/24 1130
MFL-AM03-083024-AB	DL275055	7,209.829	08/30/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20 ✓

Method of Shipment: Fed Ex

Relinquished by: [signature] Date/Time: 09/03/24 1100

Relinquished by: Date/Time:

Sample Condition Upon Receipt:

Received by: [signature] FedEx Date/Time 9/5/24 9:40A

Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042418461

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418461

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAshlab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-083024-AB	DL 275079	7,251.821	08/30/24 1335
MFL-FB01-083024-AB	DL274979	0	08/30/24 1200
MFL-AM05-083124-AB	DL275018	7,205.852	08/31/24 1104
MFL-AM02-083124-AB	DL275098	7,124.583	08/31/24 1120
MFL-AM03-083124-AB	DL274945	7,266.753	08/31/24 1309
MFL-AM06-083124-AB	DL274999	7,149.690	08/31/24 1330
MFL-FB01-083124-AB	DL275031	0	08/31/24 1200
MFL-AM05-090124-AB	DL274913	7,150.813	09/01/24 1101
MFL-AM02-090124-AB	DL275049	7,157.168	09/01/24 1118
MFL-AM03-090124-AB	DL274891	7,156.880	09/01/24 1307
MFL-AM06-090124-AB	DL275069	7,160.284	09/01/24 1330
MFL-FB01-090124-AB	DL274918	0	09/01/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP -5 AM 11:05

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/03/24 1100	Received by: FedEx	Date/Time 9/5/24 9:40A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/12/2024 and Shanna Vasser 09/13/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/29/2024 – 09/01/2024
Report No: 42418461

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090324-AB**		**Sample Description:**	**DL274906**
EMSL Sample Number:	042418701-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0001 **Customer Sample:** MFL-FB01-090324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A9	None Detected									
B2	C7	None Detected									
B2	E10	None Detected									
B2	G9	None Detected									
B2	I8	None Detected									
B3	J8	None Detected									
B3	H4	None Detected									
B3	F1	None Detected									
B3	D5	None Detected									
B3	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-090424-AB** **Sample Description: DL275064**

EMSL Sample Number:	042418701-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0002 **Customer Sample:** MFL-AM05-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	D1	None Detected									
B5	G4	None Detected									
B6	B5	None Detected									
B6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090424-AB**	**Sample Description:**	**DL275048**
EMSL Sample Number:	042418701-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7222.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0003 **Customer Sample:** MFL-AM02-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	D9	None Detected									
C1	F1	None Detected									
C1	H3	None Detected									
C2	G7	None Detected									
C2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090424-AB**	**Sample Description:**	**DL275085**
EMSL Sample Number:	042418701-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7289.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042418701**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0004 **Customer Sample:** MFL-AM03-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I9	None Detected									
C5	G6	None Detected									
C5	C4	None Detected									
C6	H3	None Detected									
C6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090424-AB**		**Sample Description:**	**DL274986**
EMSL Sample Number:	042418701-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4759.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0005 **Customer Sample:** MFL-AM06-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	F4	None Detected									
D1	D2	None Detected									
D1	B6	None Detected									
D1	A8	None Detected									
D2	B7	None Detected									
D2	H2	None Detected									
D2	F2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090424-AB**		**Sample Description:**	**DL274949**
EMSL Sample Number:	042418701-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0006 **Customer Sample:** MFL-FB01-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J10	None Detected									
D5	H7	None Detected									
D5	F4	None Detected									
D5	D10	None Detected									
D5	B6	None Detected									
D6	J10	None Detected									
D6	H7	None Detected									
D6	F9	None Detected									
D6	D6	None Detected									
D6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042418701-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418701
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418701-0007 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A7	None Detected									
A1	C8	None Detected									
A1	E9	None Detected									
A1	G4	None Detected									
A1	I5	None Detected									
A2	A6	None Detected									
A2	C7	None Detected									
A2	E4	None Detected									
A2	G8	None Detected									
A2	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042418701

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042418701 RECEIVED EMSL CINNAMINSON, N.J. 2024 SEP -9 A 9:26

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Sober
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202
Country:
Phone: (703) 489-2674
Email(s) for Report: chelsea.sober@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip:
Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires-Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 6

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-FB01-090329-AB	DL2749O6	0	09/03/24 1200
MFL-AM05-090924-AB	DL275064	7,225,380	09/09/24 1106
MFL-AM02-090924-AB	DL275098	7,222.903	09/09/24 1118
MFL-AM03-090924-AB	DL275085	7,289.170	09/09/24 1303
MFL-AM06-090924-AB	DL274986	4,759.149	09/09/24 1326
MFL-FB01-090424-AB	DL274949	0	09/09/24 1200

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

allow volume due to low run time, contact Chelsea Sober before opening/more grids

All samples received acceptable for analysis.

Method of Shipment: Fedex

Relinquished by: Shaina Epstein Date/Time: 9/5/24 1100
Relinquished by: Date/Time:

Sample Condition Upon Receipt:

Received by: FX Date/Time: 9/6/24 8:50am
Received by: Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/16/2024 and Shanna Vasser 09/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/03/2024 – 09/04/2024
Report No: 42418701

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: The laboratory noted that sample MFL-AM06-090424-AB had low volume due to low run time.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

September 17, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 09/09/24 10:05.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-082924-HM	4090925-01	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM02-082924-HM	4090925-02	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM03-082924-HM	4090925-03	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM06-082924-HM	4090925-04	Air	08/29/24 23:59	09/09/24 10:05
MFL-FB01-082924-HM	4090925-05	Air	08/29/24 00:00	09/09/24 10:05
MFL-AM05-083024-HM	4090925-06	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM02-083024-HM	4090925-07	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM03-083024-HM	4090925-08	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM06-083024-HM	4090925-09	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM05-083124-HM	4090925-10	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM02-083124-HM	4090925-11	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM03-083124-HM	4090925-12	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM06-083124-HM	4090925-13	Air	08/31/24 23:59	09/09/24 10:05
MFL-FB01-083124-HM	4090925-14	Air	08/31/24 00:00	09/09/24 10:05
MFL-AM05-090124-HM	4090925-15	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM02-090124-HM	4090925-16	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM03-090124-HM	4090925-17	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM06-090124-HM	4090925-18	Air	09/01/24 23:59	09/09/24 10:05
MFL-FB01-090324-HM	4090925-19	Air	09/03/24 00:00	09/09/24 10:05
MFL-LB01-090324-HM	4090925-20	Air	09/03/24 00:00	09/09/24 10:05
MFL-AM05-090424-HM	4090925-21	Air	09/04/24 23:59	09/09/24 10:05

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REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM02-090424-HM	4090925-22	Air	09/04/24 23:59	09/09/24 10:05
MFL-AM03-090424-HM	4090925-23	Air	09/04/24 23:59	09/09/24 10:05
MFL-AM06-090424-HM	4090925-24	Air	09/04/24 23:59	09/09/24 10:05

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082924-HM
Matrix: Air
Lab ID: 4090925-01
Sample Volume: 1974.461 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 04:23

Comments: Q9555423 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0696**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.309**		**0.00772**
Barium	**7440-39-3**	**2.47**	B	**0.882**
Beryllium	**7440-41-7**	**0.00686**		**0.00264**
Cadmium	7440-43-9	0.0289	U	0.0611
Chromium	7440-47-3	1.78	U	1.82
Cobalt	**7440-48-4**	**0.219**	QB-01	**0.0359**
Copper	**7440-50-8**	**70.5**		**2.17**
Lead	**7439-92-1**	**0.907**		**0.176**
Manganese	**7439-96-5**	**6.18**		**1.56**
Molybdenum	**7439-98-7**	**2.07**		**0.296**
Nickel	**7440-02-0**	**0.865**		**0.537**
Selenium	**7782-49-2**	**0.173**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00219**		**4.85E-4**
Vanadium	**7440-62-2**	**0.740**		**0.0436**
Zinc	7440-66-6	13.5	U	63.3

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082924-HM
Matrix: Air
Lab ID: 4090925-02
Sample Volume: 2107.514 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 04:43

Comments: Q9555421 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0531**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.201**		**0.00723**
Barium	**7440-39-3**	**2.06**	B	**0.826**
Beryllium	**7440-41-7**	**0.00585**		**0.00247**
Cadmium	7440-43-9	0.0150	U	0.0572
Chromium	7440-47-3	1.48	U	1.71
Cobalt	**7440-48-4**	**0.164**	QB-01	**0.0337**
Copper	**7440-50-8**	**42.5**		**2.03**
Lead	**7439-92-1**	**0.474**		**0.165**
Manganese	**7439-96-5**	**5.34**		**1.46**
Molybdenum	**7439-98-7**	**3.68**		**0.277**
Nickel	**7440-02-0**	**0.637**		**0.503**
Selenium	**7782-49-2**	**0.181**	LJ, QX	**0.00692**
Thallium	**7440-28-0**	**0.00226**		**4.55E-4**
Vanadium	**7440-62-2**	**0.588**		**0.0408**
Zinc	7440-66-6	8.32	U	59.3

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082924-HM
Matrix: Air
Lab ID: 4090925-03
Sample Volume: 1947.562 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:03

Comments: Q9555420 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0408**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.146**		**0.00783**
Barium	**7440-39-3**	**2.22**	B	**0.894**
Beryllium	**7440-41-7**	**0.0231**		**0.00267**
Cadmium	7440-43-9	0.0158	U	0.0619
Chromium	**7440-47-3**	**2.30**		**1.85**
Cobalt	**7440-48-4**	**0.355**	QB-01	**0.0364**
Copper	**7440-50-8**	**80.2**		**2.20**
Lead	**7439-92-1**	**0.259**		**0.179**
Manganese	**7439-96-5**	**8.61**		**1.58**
Molybdenum	**7439-98-7**	**2.64**		**0.300**
Nickel	**7440-02-0**	**1.24**		**0.545**
Selenium	**7782-49-2**	**0.160**	LJ, QX	**0.00749**
Thallium	**7440-28-0**	**0.00207**		**4.92E-4**
Vanadium	**7440-62-2**	**0.847**		**0.0442**
Zinc	7440-66-6	7.31	U	64.2

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082924-HM
Matrix: Air
Lab ID: 4090925-04
Sample Volume: 1623.466 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:23

Comments: Q9555418 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0387**
Arsenic	**7440-38-2**	**0.226**		**0.00939**
Barium	**7440-39-3**	**6.61**	B	**1.07**
Beryllium	**7440-41-7**	**0.00786**		**0.00321**
Cadmium	7440-43-9	0.0264	U	0.0743
Chromium	**7440-47-3**	**2.53**		**2.21**
Cobalt	**7440-48-4**	**0.334**	QB-01	**0.0437**
Copper	**7440-50-8**	**72.6**		**2.64**
Lead	**7439-92-1**	**0.853**		**0.214**
Manganese	**7439-96-5**	**10.2**		**1.89**
Molybdenum	**7439-98-7**	**2.25**		**0.360**
Nickel	**7440-02-0**	**1.14**		**0.653**
Selenium	**7782-49-2**	**0.154**	LJ, QX	**0.00898**
Thallium	**7440-28-0**	**0.00188**		**5.90E-4**
Vanadium	**7440-62-2**	**0.941**		**0.0530**
Zinc	7440-66-6	17.8	U	77.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082924-HM
Matrix: Air
Lab ID: 4090925-05
Sample Volume: 1974.461 m³
Filter ID:
Sampled: 08/29/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:43

Comments: Q9555409 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0104	U, SL	0.0318
Arsenic	**7440-38-2**	**0.00835**	FB-01	**0.00772**
Barium	7440-39-3	0.442	B, U	0.882
Beryllium	7440-41-7	9.62E-4	U	0.00264
Cadmium	7440-43-9	0.00397	U	0.0611
Chromium	7440-47-3	1.04	U	1.82
Cobalt	7440-48-4	0.0253	QB-01, U	0.0359
Copper	7440-50-8	1.31	U	2.17
Lead	7439-92-1	0.0533	U	0.176
Manganese	7439-96-5	0.329	U	1.56
Molybdenum	7439-98-7	0.225	U	0.296
Nickel	7440-02-0	0.332	U	0.537
Selenium	7782-49-2	0.00711	LJ, QX, U	0.00738
Thallium	7440-28-0	1.04E-4	U	4.85E-4
Vanadium	7440-62-2	0.0322	U	0.0436
Zinc	7440-66-6	2.41	U	63.3

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SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-083024-HM
Matrix: Air
Lab ID: 4090925-06
Sample Volume: 1943.546 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:03

Comments: Q9555414 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0857**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.281**		**0.00784**
Barium	**7440-39-3**	**3.85**	B	**0.896**
Beryllium	**7440-41-7**	**0.0120**		**0.00268**
Cadmium	7440-43-9	0.0222	U	0.0620
Chromium	**7440-47-3**	**3.00**		**1.85**
Cobalt	**7440-48-4**	**0.555**	QB-01	**0.0365**
Copper	**7440-50-8**	**80.9**		**2.20**
Lead	**7439-92-1**	**0.638**		**0.179**
Manganese	**7439-96-5**	**13.1**		**1.58**
Molybdenum	**7439-98-7**	**2.13**		**0.301**
Nickel	**7440-02-0**	**1.97**		**0.546**
Selenium	**7782-49-2**	**0.144**	LJ, QX	**0.00750**
Thallium	**7440-28-0**	**0.00123**		**4.93E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0443**
Zinc	7440-66-6	10.6	U	64.3

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SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-083024-HM
Matrix: Air
Lab ID: 4090925-07
Sample Volume: 2125.164 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/10/24 21:21

Comments: Q9555412 - MS/MSD - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.385**		**0.00717**
Barium	**7440-39-3**	**4.68**	B	**0.819**
Beryllium	**7440-41-7**	**0.0173**		**0.00245**
Cadmium	7440-43-9	0.0290	U	0.0567
Chromium	**7440-47-3**	**3.27**		**1.69**
Cobalt	**7440-48-4**	**0.623**	QB-01	**0.0334**
Copper	**7440-50-8**	**55.1**		**2.01**
Lead	**7439-92-1**	**1.20**		**0.164**
Manganese	**7439-96-5**	**17.3**		**1.45**
Molybdenum	**7439-98-7**	**3.49**	QM-07	**0.275**
Nickel	**7440-02-0**	**2.07**		**0.499**
Selenium	**7782-49-2**	**0.176**	LJ, QX, SRD-01	**0.00686**
Thallium	**7440-28-0**	**0.00150**		**4.51E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0405**
Zinc	7440-66-6	16.7	U	58.8

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-083024-HM
Matrix: Air
Lab ID: 4090925-08
Sample Volume: 1972.293 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:21

Comments: Q9555411 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.103**		**0.00773**
Barium	**7440-39-3**	**1.95**	B	**0.883**
Beryllium	**7440-41-7**	**0.0161**		**0.00264**
Cadmium	7440-43-9	0.0153	U	0.0611
Chromium	**7440-47-3**	**1.99**		**1.82**
Cobalt	**7440-48-4**	**0.282**	QB-01	**0.0360**
Copper	**7440-50-8**	**79.6**		**2.17**
Lead	7439-92-1	0.155	U	0.177
Manganese	**7439-96-5**	**7.20**		**1.56**
Molybdenum	**7439-98-7**	**2.59**		**0.296**
Nickel	**7440-02-0**	**1.16**		**0.538**
Selenium	**7782-49-2**	**0.141**	LJ, QX	**0.00739**
Thallium	**7440-28-0**	**9.20E-4**		**4.86E-4**
Vanadium	**7440-62-2**	**0.584**		**0.0436**
Zinc	7440-66-6	6.92	U	63.4

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-083024-HM
Matrix: Air
Lab ID: 4090925-09
Sample Volume: 1667.1 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:36

Comments: Q9555408 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.213**	SL	**0.0377**
Arsenic	**7440-38-2**	**0.310**		**0.00914**
Barium	**7440-39-3**	**8.19**	B	**1.04**
Beryllium	**7440-41-7**	**0.00920**		**0.00312**
Cadmium	7440-43-9	0.0342	U	0.0723
Chromium	**7440-47-3**	**5.16**		**2.16**
Cobalt	**7440-48-4**	**0.561**	QB-01	**0.0426**
Copper	**7440-50-8**	**30.4**		**2.57**
Lead	**7439-92-1**	**0.729**		**0.209**
Manganese	**7439-96-5**	**11.2**		**1.84**
Molybdenum	**7439-98-7**	**1.30**		**0.350**
Nickel	**7440-02-0**	**10.8**		**0.636**
Selenium	**7782-49-2**	**0.125**	LJ, QX	**0.00874**
Thallium	**7440-28-0**	**0.00113**		**5.75E-4**
Vanadium	**7440-62-2**	**0.835**		**0.0516**
Zinc	7440-66-6	17.9	U	75.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-083124-HM
Matrix: Air
Lab ID: 4090925-10
Sample Volume: 1891.35 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:51

Comments: Q9555407 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0591**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.265**		**0.00806**
Barium	**7440-39-3**	**2.56**	B	**0.920**
Beryllium	**7440-41-7**	**0.00500**		**0.00275**
Cadmium	7440-43-9	0.0211	U	0.0637
Chromium	**7440-47-3**	**1.98**		**1.90**
Cobalt	**7440-48-4**	**0.133**	QB-01	**0.0375**
Copper	**7440-50-8**	**29.0**		**2.26**
Lead	**7439-92-1**	**0.610**		**0.184**
Manganese	**7439-96-5**	**3.97**		**1.63**
Molybdenum	**7439-98-7**	**1.31**		**0.309**
Nickel	**7440-02-0**	**0.928**		**0.561**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00771**
Thallium	**7440-28-0**	**6.19E-4**		**5.07E-4**
Vanadium	**7440-62-2**	**0.528**		**0.0455**
Zinc	7440-66-6	15.1	U	66.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-083124-HM
Matrix: Air
Lab ID: 4090925-11
Sample Volume: 1961.557 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 07:05

Comments: Q9555404 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0561**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.301**		**0.00777**
Barium	**7440-39-3**	**1.72**	B	**0.888**
Beryllium	**7440-41-7**	**0.00354**		**0.00265**
Cadmium	7440-43-9	0.0210	U	0.0615
Chromium	7440-47-3	1.56	U	1.83
Cobalt	**7440-48-4**	**0.0899**	QB-01	**0.0362**
Copper	**7440-50-8**	**23.2**		**2.18**
Lead	**7439-92-1**	**0.360**		**0.178**
Manganese	**7439-96-5**	**2.54**		**1.57**
Molybdenum	**7439-98-7**	**0.990**		**0.298**
Nickel	**7440-02-0**	**0.554**		**0.541**
Selenium	**7782-49-2**	**0.195**	LJ, QX	**0.00743**
Thallium	**7440-28-0**	**5.99E-4**		**4.89E-4**
Vanadium	**7440-62-2**	**0.467**		**0.0439**
Zinc	7440-66-6	7.53	U	63.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-083124-HM
Matrix: Air
Lab ID: 4090925-12
Sample Volume: 1930.289 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 08:13

Comments: Q9555403 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0478**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.109**		**0.00790**
Barium	**7440-39-3**	**2.49**	B	**0.902**
Beryllium	**7440-41-7**	**0.0108**		**0.00270**
Cadmium	7440-43-9	0.0484	U	0.0625
Chromium	**7440-47-3**	**1.99**		**1.86**
Cobalt	**7440-48-4**	**0.226**	QB-01	**0.0367**
Copper	**7440-50-8**	**46.8**		**2.22**
Lead	**7439-92-1**	**0.410**		**0.180**
Manganese	**7439-96-5**	**5.39**		**1.59**
Molybdenum	**7439-98-7**	**1.74**		**0.303**
Nickel	**7440-02-0**	**1.45**		**0.550**
Selenium	**7782-49-2**	**0.177**	LJ, QX	**0.00755**
Thallium	**7440-28-0**	**8.62E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**0.618**		**0.0446**
Zinc	7440-66-6	17.8	U	64.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-083124-HM
Matrix: Air
Lab ID: 4090925-13
Sample Volume: 1756.238 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 08:49

Comments: Q9555400 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.160**	SL	**0.0358**
Arsenic	**7440-38-2**	**0.312**		**0.00868**
Barium	**7440-39-3**	**4.77**	B	**0.991**
Beryllium	**7440-41-7**	**0.00663**		**0.00296**
Cadmium	**7440-43-9**	**0.105**		**0.0686**
Chromium	**7440-47-3**	**5.93**		**2.05**
Cobalt	**7440-48-4**	**0.288**	QB-01	**0.0404**
Copper	**7440-50-8**	**55.5**		**2.44**
Lead	**7439-92-1**	**0.917**		**0.198**
Manganese	**7439-96-5**	**7.17**		**1.75**
Molybdenum	**7439-98-7**	**2.33**		**0.333**
Nickel	**7440-02-0**	**3.96**		**0.604**
Selenium	**7782-49-2**	**0.172**	LJ, QX	**0.00830**
Thallium	**7440-28-0**	**0.00150**		**5.46E-4**
Vanadium	**7440-62-2**	**0.731**		**0.0490**
Zinc	7440-66-6	21.3	U	71.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-083124-HM
Matrix: Air
Lab ID: 4090925-14
Sample Volume: 1891.35 m³
Filter ID:
Sampled: 08/31/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:05

Comments: Q9537650 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00990	SL, U	0.0332
Arsenic	**7440-38-2**	**0.00938**	FB-01	**0.00806**
Barium	**7440-39-3**	**0.922**	B, FB-01	**0.920**
Beryllium	7440-41-7	5.20E-4	U	0.00275
Cadmium	7440-43-9	0.00872	U	0.0637
Chromium	7440-47-3	1.45	U	1.90
Cobalt	7440-48-4	0.0249	QB-01, U	0.0375
Copper	7440-50-8	0.727	U	2.26
Lead	7439-92-1	0.0649	U	0.184
Manganese	7439-96-5	0.292	U	1.63
Molybdenum	7439-98-7	0.237	U	0.309
Nickel	7440-02-0	0.289	U	0.561
Selenium	7782-49-2	5.06E-4	LJ, QX, U	0.00771
Thallium	7440-28-0	2.34E-4	U	5.07E-4
Vanadium	7440-62-2	0.0242	U	0.0455
Zinc	7440-66-6	2.64	U	66.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090124-HM
Matrix: Air
Lab ID: 4090925-15
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:19

Comments: Q9555399 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0404**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.160**		**0.00737**
Barium	**7440-39-3**	**1.75**	B	**0.842**
Beryllium	**7440-41-7**	**0.00303**		**0.00252**
Cadmium	7440-43-9	0.0138	U	0.0583
Chromium	7440-47-3	1.44	U	1.74
Cobalt	**7440-48-4**	**0.0820**	QB-01	**0.0343**
Copper	**7440-50-8**	**24.3**		**2.07**
Lead	**7439-92-1**	**0.487**		**0.168**
Manganese	**7439-96-5**	**2.24**		**1.49**
Molybdenum	**7439-98-7**	**1.10**		**0.282**
Nickel	**7440-02-0**	**0.586**		**0.513**
Selenium	**7782-49-2**	**0.158**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**7.79E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**0.619**		**0.0416**
Zinc	7440-66-6	6.71	U	60.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090124-HM
Matrix: Air
Lab ID: 4090925-16
Sample Volume: 2007.82 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:48

Comments: Q9555398 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0808**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.220**		**0.00759**
Barium	**7440-39-3**	**3.23**	B	**0.867**
Beryllium	**7440-41-7**	**0.00563**		**0.00259**
Cadmium	7440-43-9	0.0142	U	0.0600
Chromium	7440-47-3	1.75	U	1.79
Cobalt	**7440-48-4**	**0.145**	QB-01	**0.0353**
Copper	**7440-50-8**	**21.9**		**2.13**
Lead	**7439-92-1**	**0.664**		**0.173**
Manganese	**7439-96-5**	**4.91**		**1.53**
Molybdenum	**7439-98-7**	**1.01**		**0.291**
Nickel	**7440-02-0**	**0.786**		**0.528**
Selenium	**7782-49-2**	**0.224**	LJ, QX	**0.00726**
Thallium	**7440-28-0**	**0.00106**		**4.77E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0429**
Zinc	7440-66-6	11.5	U	62.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090124-HM
Matrix: Air
Lab ID: 4090925-17
Sample Volume: 1916.365 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:03

Comments: Q9555397 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0317	SL, U	0.0328
Arsenic	**7440-38-2**	**0.100**		**0.00796**
Barium	**7440-39-3**	**1.82**	B	**0.908**
Beryllium	**7440-41-7**	**0.0110**		**0.00272**
Cadmium	7440-43-9	0.0137	U	0.0629
Chromium	**7440-47-3**	**2.73**		**1.88**
Cobalt	**7440-48-4**	**0.252**	QB-01	**0.0370**
Copper	**7440-50-8**	**45.4**		**2.23**
Lead	**7439-92-1**	**0.230**		**0.182**
Manganese	**7439-96-5**	**5.43**		**1.60**
Molybdenum	**7439-98-7**	**1.51**		**0.305**
Nickel	**7440-02-0**	**1.49**		**0.554**
Selenium	**7782-49-2**	**0.171**	LJ, QX	**0.00761**
Thallium	**7440-28-0**	**9.91E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**0.737**		**0.0449**
Zinc	7440-66-6	6.44	U	65.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090124-HM
Matrix: Air
Lab ID: 4090925-18
Sample Volume: 1593.756 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:17

Comments: Q9555396 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0394**
Arsenic	**7440-38-2**	**0.180**		**0.00957**
Barium	**7440-39-3**	**4.28**	B	**1.09**
Beryllium	**7440-41-7**	**0.00365**		**0.00327**
Cadmium	**7440-43-9**	**0.0772**		**0.0756**
Chromium	**7440-47-3**	**2.90**		**2.26**
Cobalt	**7440-48-4**	**0.161**	QB-01	**0.0445**
Copper	**7440-50-8**	**46.1**		**2.68**
Lead	**7439-92-1**	**0.729**		**0.218**
Manganese	**7439-96-5**	**3.58**		**1.93**
Molybdenum	**7439-98-7**	**1.76**		**0.366**
Nickel	**7440-02-0**	**1.04**		**0.666**
Selenium	**7782-49-2**	**0.165**	LJ, QX	**0.00915**
Thallium	**7440-28-0**	**8.84E-4**		**6.01E-4**
Vanadium	**7440-62-2**	**0.662**		**0.0540**
Zinc	7440-66-6	15.3	U	78.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090324-HM
Matrix: Air
Lab ID: 4090925-19
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/03/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:32

Comments: Q9537649 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00683	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00864**	FB-01	**0.00737**
Barium	7440-39-3	0.651	B, U	0.842
Beryllium	7440-41-7	6.90E-4	U	0.00252
Cadmium	7440-43-9	0.00772	U	0.0583
Chromium	7440-47-3	1.34	U	1.74
Cobalt	7440-48-4	0.0263	QB-01, U	0.0343
Copper	7440-50-8	0.599	U	2.07
Lead	7439-92-1	0.0580	U	0.168
Manganese	7439-96-5	0.273	U	1.49
Molybdenum	7439-98-7	0.213	U	0.282
Nickel	7440-02-0	0.255	U	0.513
Selenium	7782-49-2	0.00284	LJ, QX, U	0.00705
Thallium	7440-28-0	1.30E-4	U	4.63E-4
Vanadium	7440-62-2	0.0289	U	0.0416
Zinc	7440-66-6	2.73	U	60.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-090324-HM
Matrix: Air
Lab ID: 4090925-20
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/03/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 11:33

Comments: Q9537642 - Lot blank from box 110 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00786	SL, U	0.0304
Arsenic	**7440-38-2**	**0.0111**		**0.00737**
Barium	7440-39-3	0.720	B, U	0.842
Beryllium	7440-41-7	8.47E-4	U	0.00252
Cadmium	7440-43-9	0.00925	U	0.0583
Chromium	7440-47-3	1.38	U	1.74
Cobalt	7440-48-4	0.0313	QB-01, U	0.0343
Copper	**7440-50-8**	**2.16**		**2.07**
Lead	7439-92-1	0.0790	U	0.168
Manganese	7439-96-5	0.371	U	1.49
Molybdenum	7439-98-7	0.272	U	0.282
Nickel	7440-02-0	0.389	U	0.513
Selenium	7782-49-2	0.00395	LJ, QX, U	0.00705
Thallium	7440-28-0	2.02E-4	U	4.63E-4
Vanadium	7440-62-2	0.0278	U	0.0416
Zinc	7440-66-6	4.27	U	60.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090424-HM
Matrix: Air
Lab ID: 4090925-21
Sample Volume: 1959.43 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 11:48

Comments: Q9537648 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.318**	SL	**0.0321**
Arsenic	**7440-38-2**	**1.26**		**0.00778**
Barium	**7440-39-3**	**7.12**	B	**0.888**
Beryllium	**7440-41-7**	**0.0163**		**0.00266**
Cadmium	7440-43-9	0.0456	U	0.0615
Chromium	**7440-47-3**	**3.29**		**1.84**
Cobalt	**7440-48-4**	**0.579**	QB-01	**0.0362**
Copper	**7440-50-8**	**35.9**		**2.18**
Lead	**7439-92-1**	**1.84**		**0.178**
Manganese	**7439-96-5**	**18.5**		**1.57**
Molybdenum	**7439-98-7**	**1.48**		**0.298**
Nickel	**7440-02-0**	**1.77**		**0.541**
Selenium	**7782-49-2**	**0.211**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**0.00199**		**4.89E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0439**
Zinc	7440-66-6	31.8	U	63.8

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090424-HM
Matrix: Air
Lab ID: 4090925-22
Sample Volume: 2047.883 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 12:05

Comments: Q9537647 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.127**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.241**		**0.00744**
Barium	**7440-39-3**	**4.08**	B	**0.850**
Beryllium	**7440-41-7**	**0.0105**		**0.00254**
Cadmium	7440-43-9	0.0133	U	0.0589
Chromium	**7440-47-3**	**2.63**		**1.76**
Cobalt	**7440-48-4**	**0.414**	QB-01	**0.0346**
Copper	**7440-50-8**	**21.9**		**2.09**
Lead	**7439-92-1**	**0.439**		**0.170**
Manganese	**7439-96-5**	**10.3**		**1.50**
Molybdenum	**7439-98-7**	**1.00**		**0.285**
Nickel	**7440-02-0**	**1.26**		**0.518**
Selenium	**7782-49-2**	**0.208**	LJ, QX	**0.00712**
Thallium	**7440-28-0**	**9.04E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0420**
Zinc	7440-66-6	9.45	U	61.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090424-HM
Matrix: Air
Lab ID: 4090925-23
Sample Volume: 1983.423 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 12:20

Comments: Q9537646 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0404**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.168**		**0.00769**
Barium	**7440-39-3**	**3.18**	B	**0.878**
Beryllium	**7440-41-7**	**0.0212**		**0.00262**
Cadmium	7440-43-9	0.0120	U	0.0608
Chromium	**7440-47-3**	**2.85**		**1.81**
Cobalt	**7440-48-4**	**0.364**	QB-01	**0.0358**
Copper	**7440-50-8**	**36.9**		**2.16**
Lead	**7439-92-1**	**0.272**		**0.176**
Manganese	**7439-96-5**	**9.51**		**1.55**
Molybdenum	**7439-98-7**	**1.46**		**0.294**
Nickel	**7440-02-0**	**1.33**		**0.535**
Selenium	**7782-49-2**	**0.188**	LJ, QX	**0.00735**
Thallium	**7440-28-0**	**9.32E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0434**
Zinc	7440-66-6	8.44	U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090424-HM
Matrix: Air
Lab ID: 4090925-24
Sample Volume: 1702.289 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 01:31

Comments: Q9537641 - MS/MSD - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.230**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.261**		**0.00896**
Barium	**7440-39-3**	**5.16**	B	**1.02**
Beryllium	**7440-41-7**	**0.00868**		**0.00306**
Cadmium	7440-43-9	0.0283	U	0.0708
Chromium	**7440-47-3**	**3.97**		**2.11**
Cobalt	**7440-48-4**	**0.306**	QB-01	**0.0417**
Copper	**7440-50-8**	**48.1**	D-F, QM-07	**2.51**
Lead	**7439-92-1**	**0.884**		**0.205**
Manganese	**7439-96-5**	**9.45**	QM-07	**1.81**
Molybdenum	**7439-98-7**	**1.54**	QM-07	**0.343**
Nickel	**7440-02-0**	**2.20**	QM-07	**0.623**
Selenium	**7782-49-2**	**0.171**	LJ, QX	**0.00856**
Thallium	**7440-28-0**	**0.00107**		**5.63E-4**
Vanadium	**7440-62-2**	**0.998**		**0.0506**
Zinc	7440-66-6	24.7	U	73.4

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Blank (2409042-CCB1)				Prepared & Analyzed: 09/10/24						
Antimony	0.885		ng/l							
Arsenic	-1.89		ng/l							U
Barium	0.174		ng/l							
Beryllium	-0.520		ng/l							U
Cadmium	-0.0326		ng/l							U
Chromium	-0.120		ng/l							U
Cobalt	-0.0832		ng/l							U
Copper	68.5		ng/l							
Lead	9.48		ng/l							
Manganese	3.17		ng/l							
Molybdenum	28.8		ng/l							
Nickel	1.82		ng/l							
Selenium	11.1		ng/l							LJ, QX
Thallium	1.21		ng/l							
Vanadium	-66.1		ng/l							U
Zinc	-10.2		ng/l							U
Calibration Blank (2409042-CCB2)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.529		ng/l							
Arsenic	-1.29		ng/l							U
Barium	1.76		ng/l							
Beryllium	-0.798		ng/l							U
Cadmium	0.0156		ng/l							
Chromium	0.377		ng/l							
Cobalt	0.221		ng/l							
Copper	55.6		ng/l							
Lead	3.19		ng/l							
Manganese	5.97		ng/l							
Molybdenum	6.51		ng/l							
Nickel	3.32		ng/l							
Selenium	2.61		ng/l							LJ, QX
Thallium	1.22		ng/l							
Vanadium	-64.5		ng/l							U
Zinc	-16.8		ng/l							U
Calibration Blank (2409042-CCB3)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.645		ng/l							
Arsenic	-0.202		ng/l							U
Barium	1.04		ng/l							
Beryllium	-1.08		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Blank (2409042-CCB3) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Cadmium	0.00908		ng/l							
Chromium	1.58		ng/l							
Cobalt	0.0271		ng/l							
Copper	34.8		ng/l							
Lead	2.63		ng/l							
Manganese	5.87		ng/l							
Molybdenum	7.11		ng/l							
Nickel	0.392		ng/l							
Selenium	11.6		ng/l							LJ, QX
Thallium	1.15		ng/l							
Vanadium	-67.6		ng/l							U
Zinc	-26.9		ng/l							U
Calibration Blank (2409042-CCB4)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.503		ng/l							
Arsenic	-3.58		ng/l							U
Barium	0.518		ng/l							
Beryllium	-1.53		ng/l							U
Cadmium	-0.0677		ng/l							U
Chromium	1.08		ng/l							
Cobalt	0.0858		ng/l							
Copper	26.8		ng/l							
Lead	1.59		ng/l							
Manganese	1.36		ng/l							
Molybdenum	4.48		ng/l							
Nickel	2.23		ng/l							
Selenium	18.1		ng/l							LJ, QX
Thallium	0.871		ng/l							
Vanadium	-69.7		ng/l							U
Zinc	-41.5		ng/l							U
Calibration Blank (2409042-CCB5)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.431		ng/l							
Arsenic	-1.94		ng/l							U
Barium	0.319		ng/l							
Beryllium	-1.69		ng/l							U
Cadmium	0.0467		ng/l							
Chromium	1.84		ng/l							
Cobalt	0.0559		ng/l							
Copper	29.2		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Blank (2409042-CCB5) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Lead	1.94		ng/l							
Manganese	5.00		ng/l							
Molybdenum	9.20		ng/l							
Nickel	3.40		ng/l							
Selenium	4.42		ng/l							LJ, QX
Thallium	1.36		ng/l							
Vanadium	-71.3		ng/l							U
Zinc	-27.1		ng/l							U
Calibration Blank (2409042-CCB6)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.139		ng/l							
Arsenic	-3.34		ng/l							U
Barium	0.825		ng/l							
Beryllium	-1.84		ng/l							U
Cadmium	-0.0568		ng/l							U
Chromium	2.30		ng/l							
Cobalt	0.0823		ng/l							
Copper	26.5		ng/l							
Lead	1.47		ng/l							
Manganese	2.50		ng/l							
Molybdenum	6.40		ng/l							
Nickel	4.30		ng/l							
Selenium	13.8		ng/l							LJ, QX
Thallium	0.980		ng/l							
Vanadium	-76.3		ng/l							U
Zinc	-20.1		ng/l							U
Calibration Check (2409042-CCV1)				Prepared & Analyzed: 09/10/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	230000		ng/l	240000		95.8	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.7	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Check (2409042-CCV1) Contin				Prepared & Analyzed: 09/10/24						
Selenium	20100		ng/l	20000		100	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2409042-CCV2)				Prepared & Analyzed: 09/10/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			
Cadmium	19500		ng/l	20000		97.5	90-110			
Chromium	222000		ng/l	240000		92.3	90-110			
Cobalt	47300		ng/l	50000		94.6	90-110			
Copper	1.88E6		ng/l	2.0000E6		94.0	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	46800		ng/l	50000		93.6	90-110			
Nickel	113000		ng/l	120000		94.5	90-110			
Selenium	21200		ng/l	20000		106	90-110			LJ, QX
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	19000		ng/l	20000		94.9	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2409042-CCV3)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	229000		ng/l	240000		95.5	90-110			
Cobalt	48800		ng/l	50000		97.7	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.7	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	117000		ng/l	120000		97.8	90-110			
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	513000		ng/l	500000		103	90-110			

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Check (2409042-CCV4)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5290		ng/l	5000.0		106	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	233000		ng/l	240000		97.2	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.6	90-110			
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2409042-CCV5)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2409042-CCV6)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Check (2409042-CCV6) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	53300		ng/l	50000		107	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	534000		ng/l	500000		107	90-110			
High Cal Check (2409042-HCV1)				Prepared & Analyzed: 09/10/24						
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39800		ng/l	40000		99.5	95-105			
Barium	396000		ng/l	400000		98.9	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	40200		ng/l	40000		100	95-105			
Chromium	471000		ng/l	480000		98.1	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	99300		ng/l	100000		99.3	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			LJ, QX
Thallium	995		ng/l	1000.0		99.5	95-105			
Vanadium	39600		ng/l	40000		99.0	95-105			
Zinc	991000		ng/l	1.0000E6		99.1	95-105			
Initial Cal Blank (2409042-ICB1)				Prepared & Analyzed: 09/10/24						
Antimony	0.284		ng/l							
Arsenic	-2.18		ng/l							U
Barium	0.932		ng/l							
Beryllium	-0.455		ng/l							U
Cadmium	-0.134		ng/l							U
Chromium	0.629		ng/l							
Cobalt	-0.00324		ng/l							U
Copper	59.5		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Initial Cal Blank (2409042-ICB1) Continu				Prepared & Analyzed: 09/10/24						
Lead	5.06		ng/l							
Manganese	4.93		ng/l							
Molybdenum	11.5		ng/l							
Nickel	0.386		ng/l							
Selenium	4.06		ng/l							LJ, QX
Thallium	1.07		ng/l							
Vanadium	-64.0		ng/l							U
Zinc	-17.8		ng/l							U
Initial Cal Check (2409042-ICV1)				Prepared & Analyzed: 09/10/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	194000		ng/l	200000		97.2	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	233000		ng/l	240000		97.2	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2409042-IFA1)				Prepared & Analyzed: 09/10/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	306000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Interference Check A (2409042-IFA1) Co				Prepared & Analyzed: 09/10/24						
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2409042-IFB1)				Prepared & Analyzed: 09/10/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	201000		ng/l	200000		101	80-120			
Beryllium	4920		ng/l	5000.0		98.3	80-120			
Cadmium	19700		ng/l	20000		98.6	80-120			
Chromium	224000		ng/l	240000		93.5	80-120			
Cobalt	48200		ng/l	50000		96.4	80-120			
Copper	1.86E6		ng/l	2.0000E6		92.8	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	503000		ng/l	500000		101	80-120			
Molybdenum	367000		ng/l	350000		105	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Selenium	19500		ng/l	20000		97.6	80-120			LJ, QX
Thallium	523		ng/l	500.00		105	80-120			
Vanadium	19300		ng/l	20000		96.3	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4I1005 - ICP-MS Extraction										
Blank (B4I1005-BLK1)				Prepared & Analyzed: 09/10/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							B, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							QB-01, U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Blank (B4I1005-BLK1) Continued				Prepared & Analyzed: 09/10/24						
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4I1005-BS1)				Prepared & Analyzed: 09/10/24						
Antimony	0.663	0.0386	ng/m³ Air	1.3829		48.0	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.1	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			B
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.2	80-120			QB-01
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.5	80-120			
Manganese	8.52	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	2.96	0.652	ng/m³ Air	2.7658		107	80-120			
Selenium	2.78	0.00896	ng/m³ Air	2.7658		101	80-120			LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.5	80-120			
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		97.0	80-120			
Zinc	89.7	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4I1005-BS2)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.619	0.0386	ng/m³ Air	1.3829		44.8	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.0	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			B
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.4	80-120			QB-01
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.5	80-120			
Manganese	8.54	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	2.99	0.652	ng/m³ Air	2.7658		108	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			LJ, QX
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		98.8	80-120			
Vanadium	2.67	0.0529	ng/m³ Air	2.7658		96.6	80-120			
Zinc	88.9	76.8	ng/m³ Air	82.975		107	80-120			
Duplicate (B4I1005-DUP1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	0.125	0.0296	ng/m³ Air		0.113			10.1	10	SL
Arsenic	0.389	0.00717	ng/m³ Air		0.385			1.04	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Duplicate (B4I1005-DUP1) Continued			**Source: 4090925-07**		Prepared & Analyzed: 09/10/24					
Barium	5.12	0.819	ng/m³ Air		4.68			8.96	10	B
Beryllium	0.0164	0.00245	ng/m³ Air		0.0173			5.23	10	
Cadmium	ND	0.0567	ng/m³ Air		ND				10	U
Chromium	3.43	1.69	ng/m³ Air		3.27			4.80	10	
Cobalt	0.667	0.0334	ng/m³ Air		0.623			6.79	10	QB-01
Copper	60.4	2.01	ng/m³ Air		55.1			9.22	10	
Lead	1.13	0.164	ng/m³ Air		1.20			5.58	10	
Manganese	18.6	1.45	ng/m³ Air		17.3			7.27	10	
Molybdenum	3.51	0.275	ng/m³ Air		3.49			0.443	10	
Nickel	2.09	0.499	ng/m³ Air		2.07			0.871	10	
Selenium	0.191	0.00686	ng/m³ Air		0.176			8.49	10	LJ, QX
Thallium	0.00158	4.51E-4	ng/m³ Air		0.00150			4.75	10	
Vanadium	1.91	0.0405	ng/m³ Air		1.84			4.07	10	
Zinc	ND	58.8	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP2)			**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.198	0.0369	ng/m³ Air		0.230			14.7	10	SL
Arsenic	0.255	0.00896	ng/m³ Air		0.261			2.45	10	
Barium	4.85	1.02	ng/m³ Air		5.16			6.25	10	B
Beryllium	0.00764	0.00306	ng/m³ Air		0.00868			12.7	10	
Cadmium	ND	0.0708	ng/m³ Air		ND				10	U
Chromium	3.53	2.11	ng/m³ Air		3.97			11.8	10	
Cobalt	0.277	0.0417	ng/m³ Air		0.306			9.89	10	QB-01
Copper	38.5	2.51	ng/m³ Air		48.1			22.3	10	D-F
Lead	0.645	0.205	ng/m³ Air		0.884			31.3	10	
Manganese	8.33	1.81	ng/m³ Air		9.45			12.6	10	
Molybdenum	1.31	0.343	ng/m³ Air		1.54			16.1	10	
Nickel	1.86	0.623	ng/m³ Air		2.20			16.4	10	
Selenium	0.157	0.00856	ng/m³ Air		0.171			8.31	10	LJ, QX
Thallium	9.38E-4	5.63E-4	ng/m³ Air		0.00107			12.8	10	
Vanadium	0.912	0.0506	ng/m³ Air		0.998			8.97	10	
Zinc	ND	73.4	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP3)			**Source: 4090925-12**		Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.0467	0.0325	ng/m³ Air		0.0478			2.31	10	SL
Arsenic	0.111	0.00790	ng/m³ Air		0.109			1.74	10	
Barium	2.50	0.902	ng/m³ Air		2.49			0.394	10	B
Beryllium	0.0113	0.00270	ng/m³ Air		0.0108			4.21	10	
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	1.97	1.86	ng/m³ Air		1.99			0.869	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Duplicate (B4I1005-DUP3) Continued		**Source: 4090925-12**		Prepared: 09/10/24 Analyzed: 09/11/24						
Cobalt	0.225	0.0367	ng/m³ Air		0.226			0.333	10	QB-01
Copper	47.0	2.22	ng/m³ Air		46.8			0.292	10	
Lead	0.410	0.180	ng/m³ Air		0.410			0.0937	10	
Manganese	5.39	1.59	ng/m³ Air		5.39			0.0494	10	
Molybdenum	1.75	0.303	ng/m³ Air		1.74			0.173	10	
Nickel	1.45	0.550	ng/m³ Air		1.45			0.333	10	
Selenium	0.185	0.00755	ng/m³ Air		0.177			4.52	10	LJ, QX
Thallium	8.47E-4	4.96E-4	ng/m³ Air		8.62E-4			1.76	10	
Vanadium	0.614	0.0446	ng/m³ Air		0.618			0.600	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP4)		**Source: 4090925-15**		Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.0420	0.0304	ng/m³ Air		0.0404			3.86	10	SL
Arsenic	0.156	0.00737	ng/m³ Air		0.160			2.28	10	
Barium	1.77	0.842	ng/m³ Air		1.75			1.30	10	B
Beryllium	0.00298	0.00252	ng/m³ Air		0.00303			1.67	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U
Cobalt	0.0818	0.0343	ng/m³ Air		0.0820			0.281	10	QB-01
Copper	24.4	2.07	ng/m³ Air		24.3			0.621	10	
Lead	0.490	0.168	ng/m³ Air		0.487			0.634	10	
Manganese	2.24	1.49	ng/m³ Air		2.24			0.0896	10	
Molybdenum	1.10	0.282	ng/m³ Air		1.10			0.719	10	
Nickel	0.593	0.513	ng/m³ Air		0.586			1.09	10	
Selenium	0.162	0.00705	ng/m³ Air		0.158			2.37	10	LJ, QX
Thallium	7.56E-4	4.63E-4	ng/m³ Air		7.79E-4			2.94	10	
Vanadium	0.620	0.0416	ng/m³ Air		0.619			0.130	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Matrix Spike (B4I1005-MS1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	0.635	0.0296	ng/m³ Air	1.0587	0.113	49.3	80-120			SL
Arsenic	2.37	0.00717	ng/m³ Air	2.1175	0.385	93.7	80-120			
Barium	25.9	0.819	ng/m³ Air	21.175	4.68	100	80-120			B
Beryllium	1.05	0.00245	ng/m³ Air	1.0587	0.0173	97.7	80-120			
Cadmium	1.05	0.0567	ng/m³ Air	1.0587	ND	98.7	80-120			
Chromium	13.1	1.69	ng/m³ Air	10.587	3.27	92.7	80-120			
Cobalt	1.55	0.0334	ng/m³ Air	1.0587	0.623	88.0	80-120			QB-01
Copper	78.8	2.01	ng/m³ Air	21.175	55.1	112	80-120			
Lead	11.1	0.164	ng/m³ Air	10.587	1.20	93.9	80-120			
Manganese	23.4	1.45	ng/m³ Air	6.3525	17.3	96.3	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Matrix Spike (B4I1005-MS1) Continued		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Molybdenum	4.34	0.275	ng/m³ Air	1.0587	3.49	80.6	80-120			
Nickel	3.87	0.499	ng/m³ Air	2.1175	2.07	84.9	80-120			
Selenium	2.23	0.00686	ng/m³ Air	2.1175	0.176	96.8	80-120			LJ, QX
Thallium	0.100	4.51E-4	ng/m³ Air	0.10587	0.00150	93.2	80-120			
Vanadium	3.77	0.0405	ng/m³ Air	2.1175	1.84	91.1	80-120			
Zinc	80.8	58.8	ng/m³ Air	63.525	ND	127	80-120			
Matrix Spike (B4I1005-MS2)		**Source: 4090925-24**			Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.824	0.0369	ng/m³ Air	1.3218	0.230	44.9	80-120			SL
Arsenic	2.86	0.00896	ng/m³ Air	2.6435	0.261	98.5	80-120			
Barium	31.8	1.02	ng/m³ Air	26.435	5.16	101	80-120			B
Beryllium	1.30	0.00306	ng/m³ Air	1.3218	0.00868	97.8	80-120			
Cadmium	1.34	0.0708	ng/m³ Air	1.3218	ND	102	80-120			
Chromium	15.7	2.11	ng/m³ Air	13.218	3.97	88.7	80-120			
Cobalt	1.51	0.0417	ng/m³ Air	1.3218	0.306	90.9	80-120			QB-01
Copper	68.9	2.51	ng/m³ Air	26.435	48.1	78.4	80-120			QM-07
Lead	13.8	0.205	ng/m³ Air	13.218	0.884	97.8	80-120			
Manganese	16.1	1.81	ng/m³ Air	7.9305	9.45	83.7	80-120			
Molybdenum	2.45	0.343	ng/m³ Air	1.3218	1.54	68.5	80-120			QM-07
Nickel	3.89	0.623	ng/m³ Air	2.6435	2.20	64.0	80-120			QM-07
Selenium	2.77	0.00856	ng/m³ Air	2.6435	0.171	98.4	80-120			LJ, QX
Thallium	0.129	5.63E-4	ng/m³ Air	0.13218	0.00107	97.0	80-120			
Vanadium	3.46	0.0506	ng/m³ Air	2.6435	0.998	93.2	80-120			
Zinc	100	73.4	ng/m³ Air	79.305	ND	127	80-120			
Matrix Spike Dup (B4I1005-MSD1)		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Antimony	0.690	0.0296	ng/m³ Air	1.0587	0.113	54.5	80-120	8.40	20	SL
Arsenic	2.31	0.00717	ng/m³ Air	2.1175	0.385	91.1	80-120	2.39	20	
Barium	26.6	0.819	ng/m³ Air	21.175	4.68	103	80-120	2.79	20	B
Beryllium	1.04	0.00245	ng/m³ Air	1.0587	0.0173	96.8	80-120	0.876	20	
Cadmium	1.03	0.0567	ng/m³ Air	1.0587	ND	97.1	80-120	1.68	20	
Chromium	12.8	1.69	ng/m³ Air	10.587	3.27	89.7	80-120	2.44	20	
Cobalt	1.53	0.0334	ng/m³ Air	1.0587	0.623	85.8	80-120	1.50	20	QB-01
Copper	76.1	2.01	ng/m³ Air	21.175	55.1	99.0	80-120	3.54	20	
Lead	11.2	0.164	ng/m³ Air	10.587	1.20	94.0	80-120	0.0963	20	
Manganese	23.3	1.45	ng/m³ Air	6.3525	17.3	94.8	80-120	0.397	20	
Molybdenum	4.28	0.275	ng/m³ Air	1.0587	3.49	74.7	80-120	1.44	20	QM-07
Nickel	3.79	0.499	ng/m³ Air	2.1175	2.07	81.3	80-120	1.98	20	
Selenium	2.23	0.00686	ng/m³ Air	2.1175	0.176	97.1	80-120	0.291	20	LJ, QX
Thallium	0.101	4.51E-4	ng/m³ Air	0.10587	0.00150	93.7	80-120	0.494	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Matrix Spike Dup (B4I1005-MSD1) Contir		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Vanadium	3.68	0.0405	ng/m³ Air	2.1175	1.84	87.1	80-120	2.24	20	
Zinc	79.3	58.8	ng/m³ Air	63.525	ND	125	80-120	1.84	20	
Matrix Spike Dup (B4I1005-MSD2)		**Source: 4090925-24**			Prepared: 09/10/24		Analyzed: 09/11/24			
Antimony	0.797	0.0369	ng/m³ Air	1.3218	0.230	42.9	80-120	3.32	20	SL
Arsenic	2.82	0.00896	ng/m³ Air	2.6435	0.261	96.6	80-120	1.71	20	
Barium	31.4	1.02	ng/m³ Air	26.435	5.16	99.4	80-120	1.16	20	B
Beryllium	1.31	0.00306	ng/m³ Air	1.3218	0.00868	98.6	80-120	0.768	20	
Cadmium	1.33	0.0708	ng/m³ Air	1.3218	ND	100	80-120	1.19	20	
Chromium	15.5	2.11	ng/m³ Air	13.218	3.97	87.5	80-120	1.08	20	
Cobalt	1.48	0.0417	ng/m³ Air	1.3218	0.306	88.6	80-120	2.11	20	QB-01
Copper	56.4	2.51	ng/m³ Air	26.435	48.1	31.3	80-120	19.9	20	QM-07
Lead	13.6	0.205	ng/m³ Air	13.218	0.884	96.1	80-120	1.66	20	
Manganese	15.7	1.81	ng/m³ Air	7.9305	9.45	78.4	80-120	2.64	20	QM-07
Molybdenum	2.24	0.343	ng/m³ Air	1.3218	1.54	53.3	80-120	8.57	20	QM-07
Nickel	3.54	0.623	ng/m³ Air	2.6435	2.20	50.6	80-120	9.51	20	QM-07
Selenium	2.69	0.00856	ng/m³ Air	2.6435	0.171	95.4	80-120	2.89	20	LJ, QX
Thallium	0.131	5.63E-4	ng/m³ Air	0.13218	0.00107	98.3	80-120	1.32	20	
Vanadium	3.46	0.0506	ng/m³ Air	2.6435	0.998	93.1	80-120	0.0270	20	
Zinc	93.5	73.4	ng/m³ Air	79.305	ND	118	80-120	7.02	20	
Post Spike (B4I1005-PS1)		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Antimony	0.324	0.0296	ng/m³ Air	0.21175	0.113	99.5	75-125			SL
Arsenic	1.41	0.00717	ng/m³ Air	1.0587	0.385	96.4	75-125			
Barium	6.87	0.819	ng/m³ Air	2.1175	4.68	104	75-125			B
Beryllium	0.228	0.00245	ng/m³ Air	0.21175	0.0173	99.5	75-125			
Cadmium	0.132	0.0567	ng/m³ Air	0.10587	ND	125	75-125			
Chromium	4.27	1.69	ng/m³ Air	1.0587	3.27	93.8	75-125			
Cobalt	0.819	0.0334	ng/m³ Air	0.21175	0.623	92.2	75-125			QB-01
Copper	64.9	2.01	ng/m³ Air	10.587	55.1	92.8	75-125			
Lead	22.4	0.164	ng/m³ Air	21.175	1.20	100	75-125			
Manganese	19.9	1.45	ng/m³ Air	2.1175	17.3	123	75-125			
Molybdenum	4.39	0.275	ng/m³ Air	1.0587	3.49	85.0	75-125			
Nickel	4.07	0.499	ng/m³ Air	2.1175	2.07	94.3	75-125			
Selenium	1.25	0.00686	ng/m³ Air	1.0587	0.176	102	75-125			LJ, QX
Thallium	0.0528	4.51E-4	ng/m³ Air	5.2937E-2	0.00150	97.0	75-125			
Vanadium	2.81	0.0405	ng/m³ Air	1.0587	1.84	92.2	75-125			
Zinc	ND	58.8	ng/m³ Air	21.175	ND		75-125			U
Post Spike (B4I1005-PS2)		**Source: 4090925-24**			Prepared: 09/10/24		Analyzed: 09/11/24			
Antimony	0.492	0.0369	ng/m³ Air	0.26435	0.230	99.3	75-125			SL

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Post Spike (B4I1005-PS2) Continued		**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24						
Arsenic	1.55	0.00896	ng/m³ Air	1.3218	0.261	97.4	75-125			
Barium	7.70	1.02	ng/m³ Air	2.6435	5.16	96.0	75-125			B
Beryllium	0.269	0.00306	ng/m³ Air	0.26435	0.00868	98.4	75-125			
Cadmium	0.163	0.0708	ng/m³ Air	0.13218	ND	124	75-125			
Chromium	5.33	2.11	ng/m³ Air	1.3218	3.97	103	75-125			
Cobalt	0.563	0.0417	ng/m³ Air	0.26435	0.306	97.1	75-125			QB-01
Copper	62.8	2.51	ng/m³ Air	13.218	48.1	111	75-125			
Lead	27.8	0.205	ng/m³ Air	26.435	0.884	102	75-125			
Manganese	12.2	1.81	ng/m³ Air	2.6435	9.45	105	75-125			
Molybdenum	2.87	0.343	ng/m³ Air	1.3218	1.54	100	75-125			
Nickel	4.84	0.623	ng/m³ Air	2.6435	2.20	100	75-125			
Selenium	1.50	0.00856	ng/m³ Air	1.3218	0.171	100	75-125			LJ, QX
Thallium	0.0673	5.63E-4	ng/m³ Air	6.6087E-2	0.00107	100	75-125			
Vanadium	2.30	0.0506	ng/m³ Air	1.3218	0.998	98.2	75-125			
Zinc	ND	73.4	ng/m³ Air	26.435	ND		75-125			U
Dilution Check (B4I1005-SRL1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	ND	0.148	ng/m³ Air		ND				10	SL, U
Arsenic	0.389	0.0359	ng/m³ Air		0.385			1.01	10	
Barium	4.77	4.10	ng/m³ Air		4.68			1.91	10	B
Beryllium	0.0166	0.0122	ng/m³ Air		0.0173			4.18	10	
Cadmium	ND	0.284	ng/m³ Air		ND				10	U
Chromium	ND	8.46	ng/m³ Air		ND				10	U
Cobalt	0.624	0.167	ng/m³ Air		0.623			0.166	10	QB-01
Copper	55.8	10.1	ng/m³ Air		55.1			1.20	10	
Lead	1.18	0.819	ng/m³ Air		1.20			1.53	10	
Manganese	17.6	7.23	ng/m³ Air		17.3			1.54	10	
Molybdenum	3.45	1.37	ng/m³ Air		3.49			1.01	10	
Nickel	ND	2.50	ng/m³ Air		ND				10	U
Selenium	0.201	0.0343	ng/m³ Air		0.176			13.5	10	LJ, QX, SRD-01
Thallium	0.00361	0.00225	ng/m³ Air		ND			82.3	10	
Vanadium	1.85	0.202	ng/m³ Air		1.84			0.570	10	
Zinc	ND	294	ng/m³ Air		ND				10	U
Dilution Check (B4I1005-SRL2)		**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.222	0.184	ng/m³ Air		0.230			3.38	10	SL
Arsenic	0.257	0.0448	ng/m³ Air		0.261			1.74	10	
Barium	5.12	5.11	ng/m³ Air		5.16			0.784	10	B
Beryllium	ND	0.0153	ng/m³ Air		ND				10	U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Dilution Check (B4I1005-SRL2) Continued				**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24				
Cadmium	ND	0.354	ng/m³ Air		ND				10	U
Chromium	ND	10.6	ng/m³ Air		ND				10	U
Cobalt	0.310	0.208	ng/m³ Air		0.306			1.20	10	QB-01
Copper	50.7	12.6	ng/m³ Air		48.1			5.30	10	
Lead	ND	1.02	ng/m³ Air		ND				10	U
Manganese	9.51	9.03	ng/m³ Air		9.45			0.590	10	
Molybdenum	ND	1.72	ng/m³ Air		ND				10	U
Nickel	ND	3.12	ng/m³ Air		ND				10	U
Selenium	0.207	0.0428	ng/m³ Air		0.171			19.1	10	LJ, QX
Thallium	ND	0.00281	ng/m³ Air		ND				10	U
Vanadium	0.986	0.253	ng/m³ Air		0.998			1.19	10	
Zinc	ND	367	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/19/2024 and Shanna Vasser 09/20/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/29/2024 – 09/04/2024
Report No: 4090925

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-082924-HM, for arsenic and barium in MFL-FB01-083124-HM, and for arsenic in MFL-FB01-090324-HM.

Notes:

1. The EDD was revised on September 19, 2024 to include the results for sample MFL-AM02-090124-HM.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Particulate monitoring and air sampling occurred from September 5 through September 11, 2024, at all the community locations listed below and shown on **Figure 1**:

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Skate Park (AM-06)

The CAMSP addressed ambient community air monitoring and sampling that would be performed to assess conditions and determine whether debris removal activities, (managed by the U.S. Army Corps of Engineers (USACE), and private contractors) significantly impacted air quality in Lahaina. Data collected was made available to the Hawaii Department of Health (HDOH) through an online shared site and by the information presented in weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from September 5 through September 11 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exceptions of periods during instances of equipment faults, equipment failure, and equipment replacement, as described below:

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) experienced power interruptions from a tripped electrical circuit on the evening of September 5. As a result, the intended air monitoring period of 24 hours was interrupted as described below:
    - On September 5, air monitoring was conducted for only 11 hours.
- The air monitoring station located at Lahaina Skate Park (Location ID AM-06) experienced equipment failure because of water damage; as a result, air monitoring data were not able to be collected on the following dates:
    - September 6
    - September 7
    - September 8
- Because of equipment replacement, air monitoring periods were interrupted as described below:
    - On September 9, air monitoring was conducted at Lahaina Skate Park (Location ID AM-06) for only 13 hours
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 10, air monitoring was conducted at Lahaina Skate Park (Location ID AM-06) for only 23 hours

The equipment fault codes at Lahaina Skate Park (Location ID AM-06) were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption caused a shortened monitoring duration which was addressed in the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 µg/m^3 TWA screening level three days, all at the Lahaina Skate Park monitoring location (i.e., on September 9 through September 11 as shown in **Table 1)**. The exceedances noted were not related to USACE operations as debris removal operations were not being conducted at these times.

The air monitoring and sampling station at Lahaina Skate Park was relocated on September 9 back to its original position approximately 55 feet east of the highway after irrigation systems located at the site cause water damage to the instrument resulting in its replacement and issues with tripped electrical outlets. Active traffic observed from the nearby highway may have attributed to the exceedances. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. The exceedances on September 9 through 11 are described below:

- On September 9, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. The station equipment was replaced September 9 after damage occurred to the previous instrument which resulted in it being non-operational. Elevated particulate readings occurred during the 19:00 through 21:00 time blocks. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.
- On September 10, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 02:00 through 06:00 and 20:00 through 22:00 time blocks. These time periods are outside the Tetra Tech field team's observation periods. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.
- On September 11, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 02:00 through 05:00 and 19:00 through 21:00 time blocks. These time periods are outside the Tetra Tech field team's observation periods. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. The sample collected at Lahaina Skate Park on September 5 was voided because of a power interruption and blockage failure which prevented calculating an accurate sample run time. With the exception of this sample, all analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all four community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

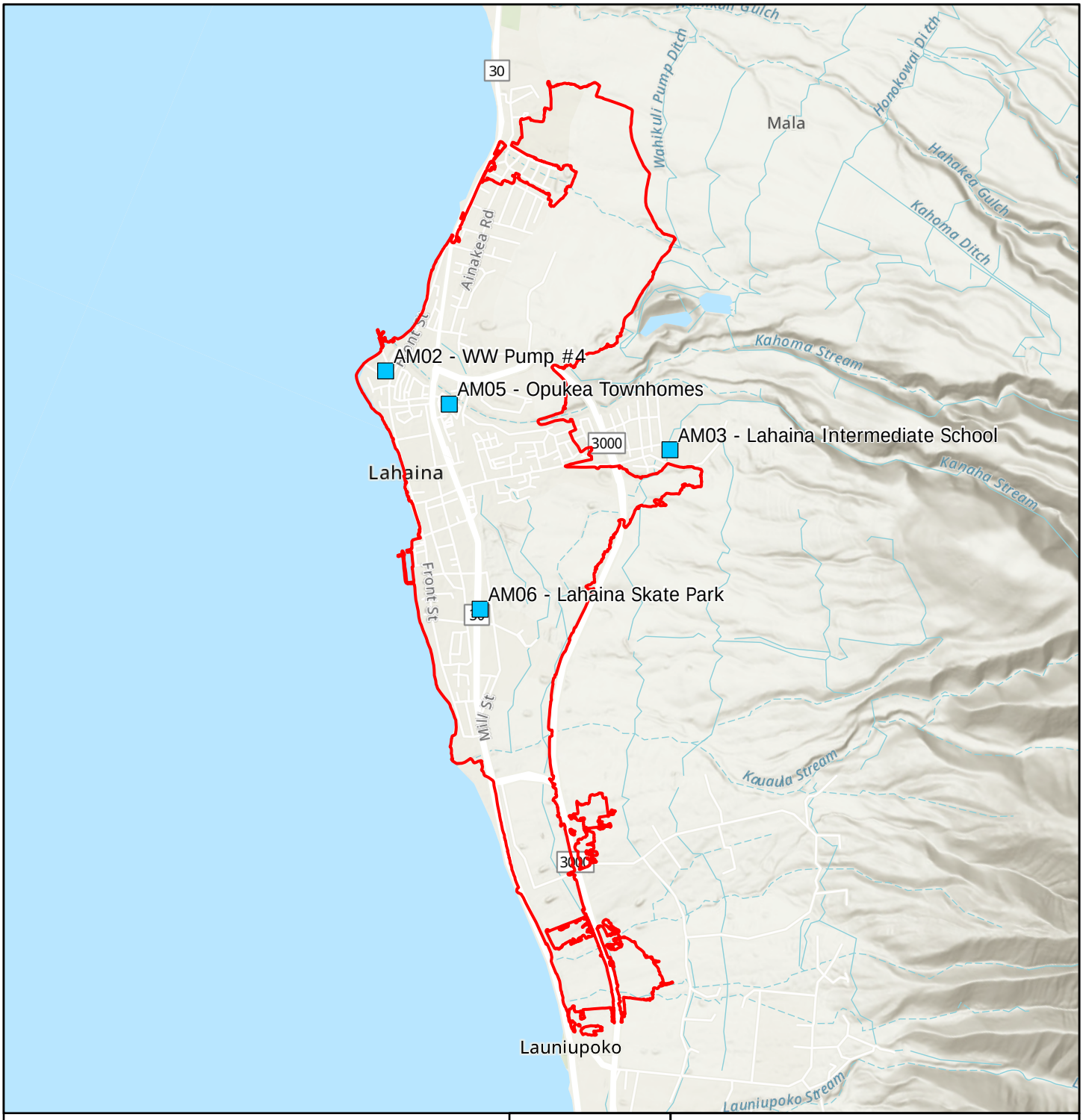
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/5/2024	Opukea Townhomes (AM-05)	8.8
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Skate Park (AM-06)	19*
9/6/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	14
	Lahaina Skate Park (AM-06)	
9/7/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Skate Park (AM-06)	
9/8/2024	Opukea Townhomes (AM-05)	5.8
	WW Pump Station #4 (AM-02)	5.5
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Skate Park (AM-06)	
9/9/2024	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	5.2
	Lahaina Intermediate School (AM-03)	67
	Lahaina Skate Park (AM-06)	**192*** **
9/10/2024	Opukea Townhomes (AM-05)	7.6
	WW Pump Station #4 (AM-02)	4.4
	Lahaina Intermediate School (AM-03)	29
	Lahaina Skate Park (AM-06)	**190****
9/11/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	33
	Lahaina Skate Park (AM-06)	**156**

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Exceedance
Equipment Failure due to water damage/ Instrument offline

*Data provided were from a reduced TWA calculation as a result of a power failure cause by a tripped electrical circuit.
** Data provided were from a reduced TWA calculation because of an equipment disruption
*** Data provided was from a reduced TWA calculation because of replacement of offline equipment

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000912	0.000438	0.00456	0.0000149	ND	0.00315	0.000491	0.0269	0.000862	0.0179	0.00124	0.00136	0.000200	0.00000126	0.00181	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000472	0.00803	0.0000240	ND	0.00420	0.000838	0.0288	0.00187	0.0261	0.00108	0.00227	0.000238	0.00000109	0.00280	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000429	0.000157	0.00366	0.0000462	ND	0.00435	0.000601	0.0392	0.000304	0.0137	0.00161	0.00217	0.000169	0.000000568	0.00153	ND
	Lahaina Skate Park (AM-06)		0.000281	0.000307	0.00618	0.0000115	ND	0.00779	0.000501	0.0912	0.000899	0.0135	0.00351	0.00415	0.000240	ND	0.00146	ND
9/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000896	0.000473	0.00371	0.00000832	ND	0.00275	0.000327	0.0195	0.00122	0.00904	0.00114	0.00132	0.000184	ND	0.00124	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000904	0.000338	0.00759	0.0000180	ND	0.00352	0.000687	0.0177	0.000743	0.0201	0.000893	0.00193	0.000240	0.000000832	0.00235	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000465	0.000133	0.00254	0.0000180	ND	0.00263	0.000362	0.0328	0.000260	0.00787	0.00177	0.00164	0.000165	0.000000544	0.000894	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000266	0.000635	0.00993	0.0000169	ND	0.00940	0.000661	0.0709	0.00139	0.0199	0.00252	0.00447	0.000208	ND	0.00175	ND
9/7/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000918	0.000222	0.00332	0.00000671	ND	0.00221	0.000240	0.0249	0.000565	0.00688	0.00152	0.000898	0.000160	ND	0.000866	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000125	0.000244	0.00446	0.00000999	ND	0.00260	0.000361	0.0214	0.000578	0.00992	0.00112	0.00129	0.000190	0.000000488	0.00128	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000398	0.000149	0.00305	0.0000344	ND	0.00343	0.000501	0.0319	0.000251	0.0124	0.00187	0.00162	0.000156	0.000000789	0.00138	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000117	0.000146	0.00471	0.00000612	ND	0.00259	0.000202	0.0585	0.000419	0.00568	0.00154	0.000949	0.000125	ND	0.000653	ND
9/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000421	0.000163	0.00229	0.00000599	ND	0.00225	0.000240	0.0249	0.000307	0.00603	0.00165	0.00105	0.000113	ND	0.000735	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000227	0.00421	0.00000909	ND	0.00244	0.000315	0.0187	0.000648	0.00911	0.00106	0.00112	0.000157	ND	0.00103	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.0000826	0.00287	0.0000106	ND	0.00220	0.000224	0.0440	0.000180	0.00574	0.00241	0.00119	0.000116	ND	0.000578	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000107	0.000134	0.00393	0.00000659	ND	0.00251	0.000242	0.0357	0.000351	0.00642	0.00138	0.00109	0.000128	ND	0.000727	ND
9/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000617	0.000183	0.00237	0.00000477	ND	0.00192	0.000192	0.0335	0.000573	0.00452	0.00233	0.000657	0.000136	ND	0.000509	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000172	0.000165	0.00536	0.00000817	ND	0.00257	0.000276	0.0224	0.000580	0.00880	0.00146	0.00111	0.000163	ND	0.000913	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000315	0.000140	0.00268	0.0000284	ND	0.00295	0.000385	0.0348	0.000294	0.00899	0.00204	0.00118	0.000147	ND	0.000949	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000114	0.000226	0.00489	0.00000816	ND	0.00262	0.000268	0.0319	0.000743	0.00788	0.00141	0.00118	0.000150	ND	0.000744	ND
9/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000570	0.000155	0.00275	0.00000734	ND	0.00239	0.000251	0.0301	0.000364	0.00730	0.00204	0.00108	0.000138	ND	0.00104	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000210	0.00616	0.0000135	ND	0.00299	0.000478	0.0288	0.000750	0.0146	0.00186	0.00145	0.000164	0.000000535	0.00179	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000366	0.000135	0.00262	0.0000161	ND	0.00330	0.000403	0.0382	0.000299	0.00943	0.00238	0.00171	0.000119	ND	0.00117	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.0001180	0.000179	0.00432	0.00000753	ND	0.00346	0.000254	0.0177	0.000812	0.00713	0.000964	0.00132	0.000102	ND	0.000909	ND
9/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000776	0.000393	0.00666	0.0000215	0.000150	0.00567	0.00110	0.0407	0.000508	0.0255	0.00256	0.00316	0.000183	0.000000988	0.00354	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000890	0.000300	0.00511	0.0000140	ND	0.00401	0.000610	0.0279	0.000626	0.0156	0.00169	0.00189	0.000163	0.000000637	0.00220	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000384	0.000160	0.00256	0.0000146	ND	0.00279	0.000378	0.0423	0.000319	0.00978	0.00224	0.00135	0.000120	ND	0.00106	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000154	0.000197	0.00682	0.00000967	ND	0.00380	0.000400	0.0276	0.000765	0.0100	0.00151	0.00159	0.000123	ND	0.00108	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.000290	0.00527	0.0000180	NA	0.00389	0.000500	0.0393	0.000780	0.0135	0.00196	0.00191	0.000170	0.00000100	0.00157	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Asbestos sample voided due to blockage failure and inability to calculate run time

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
9/5/2024	AM-02	WW Pump Station #4	1.1	S	81	67	762.1
9/5/2024	AM-03	Lahaina Intermediate School	1.3	SE	80	64	752.6
9/5/2024	AM-05	Opukea Townhomes	1.4	SSE	84	63	761.3
9/5/2024	AM-06	Lahaina Skate Park	1.0	WSW	85	59	761.7
9/6/2024	AM-02	WW Pump Station #4	1.0	SSE	81	66	762.9
9/6/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	64	753.4
9/6/2024	AM-05	Opukea Townhomes	1.4	SE	84	63	762.1
9/6/2024	AM-06	Lahaina Skate Park					
9/7/2024	AM-02	WW Pump Station #4	1.1	SSE	80	68	761.3
9/7/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	68	751.8
9/7/2024	AM-05	Opukea Townhomes	1.2	SE	83	64	760.4
9/7/2024	AM-06	Lahaina Skate Park					
9/8/2024	AM-02	WW Pump Station #4	1.0	SSE	80	65	760.1
9/8/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	62	750.5
9/8/2024	AM-05	Opukea Townhomes	1.4	SE	83	61	759.2
9/8/2024	AM-06	Lahaina Skate Park					
9/9/2024	AM-02	WW Pump Station #4	1.0	SSE	80	63	759.7
9/9/2024	AM-03	Lahaina Intermediate School	1.0	SE	80	62	750.1
9/9/2024	AM-05	Opukea Townhomes	1.4	SE	83	61	759.2
9/9/2024	AM-06	Lahaina Skate Park	1.5	S	82	62	758.0
9/10/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	759.8
9/10/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	64	750.3
9/10/2024	AM-05	Opukea Townhomes	1.0	SE	83	63	759.0
9/10/2024	AM-06	Lahaina Skate Park	1.1	SSE	80	68	758.4
9/11/2024	AM-02	WW Pump Station #4	0.9	S	82	69	759.9
9/11/2024	AM-03	Lahaina Intermediate School	1.5	ESE	82	63	750.4
9/11/2024	AM-05	Opukea Townhomes	1.6	SE	84	66	759.1
9/11/2024	AM-06	Lahaina Skate Park	1.4	SSE	82	67	758.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour
Equpimnet offline due to damage

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-090524-AB** **Sample Description:** **DL275034**

EMSL Sample Number:	042418860-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0001 **Customer Sample:** MFL-AM05-090524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A2	None Detected									
A5	D1	None Detected									
A5	G3	None Detected									
A6	H4	None Detected									
A6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090524-AB**		**Sample Description:**	**DL275016**
EMSL Sample Number:	042418860-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0002 **Customer Sample:** MFL-AM02-090524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	C6	None Detected									
B2	E3	None Detected									
B2	H5	None Detected									
B3	H5	None Detected									
B3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090524-AB**		**Sample Description:**	**DL274919**
EMSL Sample Number:	042418860-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0003 **Customer Sample:** MFL-AM03-090524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A5	None Detected									
B5	D8	None Detected									
B5	H8	None Detected									
B6	H3	None Detected									
B6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-090524-AB** **Sample Description: DL274978**

EMSL Sample Number:	042418860-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0004 **Customer Sample:** MFL-FB01-090524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J2	None Detected									
C1	H5	None Detected									
C1	F3	None Detected									
C1	D1	None Detected									
C1	B4	None Detected									
C2	A10	None Detected									
C2	C7	None Detected									
C2	E9	None Detected									
C2	G10	None Detected									
C2	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090624-AB**	**Sample Description:**	**DL275024**
EMSL Sample Number:	042418860-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7272.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0005 **Customer Sample:** MFL-AM05-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	H3	None Detected									
C5	E2	None Detected									
C5	B1	None Detected									
C6	A10	None Detected									
C6	F7	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090624-AB**		**Sample Description:**	**DL274901**
EMSL Sample Number:	042418860-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0006 **Customer Sample:** MFL-AM02-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	G9	None Detected									
D1	E7	None Detected									
D1	B3	None Detected									
D2	H2	None Detected									
D2	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090624-AB**		**Sample Description:**	**DL275115**
EMSL Sample Number:	042418860-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0007 **Customer Sample:** MFL-AM03-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A2	None Detected									
D5	E8	None Detected									
D5	J10	None Detected									
D6	D6	None Detected									
D6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090624-AB**		**Sample Description:**	**DL275040**
EMSL Sample Number:	042418860-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6402.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0008 **Customer Sample:** MFL-AM06-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I9	None Detected									
E1	G5	None Detected									
E1	D8	None Detected									
E2	D1	None Detected									
E2	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
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Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090624-AB**		**Sample Description:**	**DL275053**
EMSL Sample Number:	042418860-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0009 **Customer Sample:** MFL-FB01-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J4	None Detected									
E5	H3	None Detected									
E5	F2	None Detected									
E5	D1	None Detected									
E5	B5	None Detected									
E6	A5	None Detected									
E6	C10	None Detected									
E6	E3	None Detected									
E6	G10	None Detected									
E6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090724-AB**		**Sample Description:**	**DL274976**
EMSL Sample Number:	042418860-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0010 **Customer Sample:** MFL-AM05-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	H1	None Detected									
F1	E4	None Detected									
F1	B5	None Detected									
F2	H6	None Detected									
F2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-090724-AB** **Sample Description: DL275030**

EMSL Sample Number:	042418860-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0011 **Customer Sample:** MFL-AM02-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	H7	None Detected									
F5	E7	None Detected									
F5	A4	None Detected									
F6	B7	None Detected									
F6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090724-AB**		**Sample Description:**	**DL274971**
EMSL Sample Number:	042418860-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7202.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID:	**042418860**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0012 **Customer Sample:** MFL-AM03-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B10	None Detected									
G2	D8	None Detected									
G2	H9	None Detected									
G3	B6	None Detected									
G3	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090724-AB**		**Sample Description:**	**DL274998**
EMSL Sample Number:	042418860-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7260.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0013 **Customer Sample:** MFL-AM06-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I5	None Detected									
G5	E7	None Detected									
G5	C4	None Detected									
G6	H4	None Detected									
G6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-090724-AB** **Sample Description: DL274977**

EMSL Sample Number:	042418860-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0014 **Customer Sample:** MFL-FB01-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A5	None Detected									
H2	C7	None Detected									
H2	E7	None Detected									
H2	G8	None Detected									
H2	I7	None Detected									
H3	A7	None Detected									
H3	C10	None Detected									
H3	E7	None Detected									
H3	G8	None Detected									
H3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090824-AB**		**Sample Description:**	**DL275073**
EMSL Sample Number:	042418860-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7115.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0015 **Customer Sample:** MFL-AM05-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B8	None Detected									
H5	D5	None Detected									
H5	H6	None Detected									
H6	A9	None Detected									
H6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090824-AB**	**Sample Description:**	**DL275010**
EMSL Sample Number:	042418860-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7151.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0016 **Customer Sample:** MFL-AM02-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	G8	None Detected									
I1	E10	None Detected									
I1	C9	None Detected									
I2	C3	None Detected									
I2	I1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090824-AB**		**Sample Description:**	**DL275471**
EMSL Sample Number:	042418860-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0017 **Customer Sample:** MFL-AM03-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	H7	None Detected									
I5	E3	None Detected									
I5	C7	None Detected									
I6	A9	None Detected									
I6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090824-AB**	**Sample Description:**	**DL275453**
EMSL Sample Number:	042418860-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7244.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0018 **Customer Sample:** MFL-AM06-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J7	None Detected									
J1	D7	None Detected									
J1	I7	None Detected									
J2	I4	None Detected									
J2	F2	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-090824-AB** **Sample Description:** **DL275452**

EMSL Sample Number:	042418860-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0019 **Customer Sample:** MFL-FB01-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J6	A10	None Detected									
J6	C6	None Detected									
J6	E7	None Detected									
J6	G4	None Detected									
J6	I7	None Detected									
J8	J4	None Detected									
J8	H2	None Detected									
J8	F3	None Detected									
J8	D6	None Detected									
J8	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042418860-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418860
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042418860-0020 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J3	None Detected									
A2	H5	None Detected									
A2	F8	None Detected									
A2	D9	None Detected									
A2	B5	None Detected									
A3	A3	None Detected									
A3	C5	None Detected									
A3	E2	None Detected									
A3	G6	None Detected									
A3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042418860

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418860

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 11 PM 12:33

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202
Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip:
Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karlyn Saldaña
Sampled By Signature:
No. of Samples in Shipment: 19

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-090524-AB	DL275034	7,164.525	09/05/24 1104
MFL-AM02-090524-AB	DL275016	7,164.979	09/05/24 1120
MFL-AM03-090524-AB	DL274919	7,196.242	09/05/24 1303
* (VOID) ~~MFL-AM06-090524-AB~~	~~DL274972~~	~~952.742~~	~~09/05/24 1323~~ VOID
MFL-FB01-090524-AB	DL274978	0	09/05/24 1200
MFL-AM05-090624-AB	DL275024	7,272.048	09/06/24 1103
MFL-AM02-090624-AB	DL274901	7,143.962	09/06/24 1114
MFL-AM03-090624-AB	DL275115	7,242.631	09/06/24 1304

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Sample MFL-AM06-090524-AB voided due to low volume collected

All samples received acceptable for analysis.

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/09/24 1100	Received by: FedEx	Date/Time 9/11/24 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042418860

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418860

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-090624-AB	DL275040	6,402.329	09/06/24 1323
MFL-FB01-090624-AB	DL275053	0	09/06/24 1200
MFL-AM05-090724-AB	DL274976	7,134.130	09/07/24 1103
MFL-AM02-090724-AB	DL275030	7,194.960	09/07/24 1117
MFL-AM03-090724-AB	DL274971	7,201.578	09/07/24 1303
MFL-AM06-090724-AB	DL274998	7,260.272	09/07/24 1324
MFL-FB01-090724-AB	DL274977	0	09/07/24 1200
MFL-AM05-090824-AB	DL275073	7,115.322	09/08/24 1058
MFL-AM02-090824-AB	DL275010	7,150.993	09/08/24 1111
MFL-AM03-090824-AB	DL275471	7,213.420	09/08/24 1304
MFL-AM06-090824-AB	DL275453	7,244.024	09/08/24 1323
MFL-FB01-090824-AB	DL275452	0	09/08/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP 11 PM12:33

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 09/09/24 1100	Received by: [signature] FedEx	Date/Time 9/11/24 9:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/18/2024 and Shanna Vasser 09/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/05/2024 – 09/08/2024
Report No: 42418860

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM06-090524-AB was listed on the CoC, but crossed off, voided (low volume), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-090924-AB** **Sample Description:** **DL275467**

EMSL Sample Number:	042419163-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0001 **Customer Sample:** MFL-AM05-090924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	H5	None Detected									
A5	D2	None Detected									
A5	B6	None Detected									
A6	A5	None Detected									
A6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-090924-AB** **Sample Description:** **DL275455**

EMSL Sample Number:	042419163-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0002 **Customer Sample:** MFL-AM02-090924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J2	None Detected									
B1	H5	None Detected									
B1	D6	None Detected									
B2	C7	None Detected									
B2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-090924-AB** **Sample Description:** **DL275457**

EMSL Sample Number:	042419163-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0003 **Customer Sample:** MFL-AM03-090924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	H5	None Detected									
B5	F1	None Detected									
B5	D4	None Detected									
B6	J3	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090924-AB**	**Sample Description:**	**DL275469**
EMSL Sample Number:	042419163-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7158.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0004 **Customer Sample:** MFL-AM06-090924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	H3	None Detected									
C1	E4	None Detected									
C1	A1	None Detected									
C2	F1	None Detected									
C2	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-090924-AB** **Sample Description:** **DL275463**

EMSL Sample Number:	042419163-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0005 **Customer Sample:** MFL-FB01-090924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J2	None Detected									
C5	H2	None Detected									
C5	F3	None Detected									
C5	D1	None Detected									
C5	B4	None Detected									
C6	J3	None Detected									
C6	H1	None Detected									
C6	F4	None Detected									
C6	D2	None Detected									
C6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-091024-AB** **Sample Description:** **DL275466**

EMSL Sample Number:	042419163-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0006 **Customer Sample:** MFL-AM05-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B2	None Detected									
D1	D5	None Detected									
D1	G8	None Detected									
D2	C5	None Detected									
D2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091024-AB**	**Sample Description:**	**DL275465**
EMSL Sample Number:	042419163-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7155.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0007 **Customer Sample:** MFL-AM02-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B6	None Detected									
D5	E8	None Detected									
D5	J4	None Detected									
D6	H7	None Detected									
D6	D10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091024-AB** **Sample Description: DL275404**

EMSL Sample Number:	042419163-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7192.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0008 **Customer Sample:** MFL-AM03-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	F10	None Detected									
E1	D7	None Detected									
E1	A7	None Detected									
E2	I8	None Detected									
E2	E2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091024-AB**		**Sample Description:**	**DL275468**
EMSL Sample Number:	042419163-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7220.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0009 **Customer Sample:** MFL-AM06-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I2	None Detected									
E5	F4	None Detected									
E5	C4	None Detected									
E6	D7	None Detected									
E6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091024-AB** **Sample Description:** **DL275432**

EMSL Sample Number:	042419163-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0010 **Customer Sample:** MFL-FB01-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	H3	None Detected									
F2	F1	None Detected									
F2	D4	None Detected									
F2	B4	None Detected									
F3	J1	None Detected									
F3	H4	None Detected									
F3	G9	None Detected									
F3	D1	None Detected									
F3	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091124-AB**	**Sample Description:**	**DL275450**
EMSL Sample Number:	042419163-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7140.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0011 **Customer Sample:** MFL-AM05-091124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A5	None Detected									
F5	E3	None Detected									
F5	H6	None Detected									
F6	I4	None Detected									
F6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091124-AB** **Sample Description:** **DL275436**

EMSL Sample Number:	042419163-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0038**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0038
Total All Structures	**-**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0012 **Customer Sample:** MFL-AM02-091124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A6	None Detected									
G1	D5	MD10	1		10.8	8.7	CD	Chrysotile			
G1	D5	MF		1	2.6	0.1	CD	Chrysotile		MG_159, MG_160	
G1	G7	None Detected									
G2	C9	None Detected									
G2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091124-AB** **Sample Description:** **DL275449**

EMSL Sample Number:	042419163-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0013 **Customer Sample:** MFL-AM03-091124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A4	None Detected									
G5	D5	None Detected									
G5	H4	None Detected									
G6	G8	None Detected									
G6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM06-091124-AB** **Sample Description:** **DL275444**

EMSL Sample Number:	042419163-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6698.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0014 **Customer Sample:** MFL-AM06-091124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I6	None Detected									
H1	F4	None Detected									
H1	C2	None Detected									
H2	I1	None Detected									
H2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091124-AB** **Sample Description: DL275445**

EMSL Sample Number:	042419163-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0015 **Customer Sample:** MFL-FB01-091124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A10	None Detected									
H5	C3	None Detected									
H5	E7	None Detected									
H5	G9	None Detected									
H5	I6	None Detected									
H6	J6	None Detected									
H6	H2	None Detected									
H6	F3	None Detected									
H6	D4	None Detected									
H6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042419163-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042419163
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419163-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A8	None Detected									
A1	C7	None Detected									
A1	E4	None Detected									
A1	G7	None Detected									
A1	I6	None Detected									
A2	J2	None Detected									
A2	H3	None Detected									
A2	F2	None Detected									
A2	D5	None Detected									
A2	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042419163

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042419163

RECEIVED EMSL CINNAMINSON, N.J. 2024 SEP 16 A 10:14

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone:
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Georgia Saldana
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-090924-AB	DL275467	7,243.393	09/09/24 1105
MFL-AM02-090924-AB	DL275455	7,232.106	09/09/24 1120
MFL-AM03-090924-AB	DL275457	7,176.091	09/09/24 1304
MFL-AM06-090924-AB	DL275469	7,158.559	09/09/24 1324
~~MFL-~~ FB01-090924-AB	DL275463	0	09/09/24 1200
MFL-AM05-091024-AB	DL275466	7,227.388	09/10/24 1104
MFL-AM02-091024-AB	DL275465	7,155.086	09/10/24 1117
MFL-AM03-091024-AB	DL275404	7,192.651	09/10/24 1302

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.
Revised 9/23/24 for sample IDs.

150/k

Method of Shipment: FedEx
Relinquished by: [signature] Date/Time: 09/12/24 1100
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: [signature] FX Date/Time 9/16/24 9
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042419163

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419163

RECEIVED EMSL CINNAMINSON, NJ 2024 SEP 16 A 10:14

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAshlab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-091024-AB	DL275468	7,220.902	09/10/24 1325
MFL-FB01-091024-AB	DL275432	0	09/10/24 1200
MFL-AM05-091124-AB	DL275450	7,140.560	09/11/24 1102
MFL-AM02-091124-AB	(EMS) ~~D7~~ DL275436	7,195.796	09/11/24 1117
MFL-AM03-091124-AB	DL275449	7,200.288	09/11/24 1305
MFL-AM06-091124-AB	DL275444	6,698.292	09/11/24 1327
MFL-FB01-091124-AB	DL275445	0	09/11/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/12/24 1100	Received by: FX	Date/Time 9/16/24 9
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/23/2024 and Shanna Vasser 9/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/09/2024 – 09/11/2024
Report No: 42419163

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes:

1. The laboratory report and electronic data deliverable (EDD) were revised on September 23, 2024, to correct the sample numbers for MFL-FB01-091124-AB and MFL-AM02-091124-AB.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

September 24, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 09/16/24 12:34.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-090524-HM	4091631-01	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM02-090524-HM	4091631-02	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM03-090524-HM	4091631-03	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM06-090524-HM	4091631-04	Air	09/05/24 23:59	09/16/24 12:34
MFL-FB01-090524-HM	4091631-05	Air	09/05/24 00:00	09/16/24 12:34
MFL-AM05-090624-HM	4091631-06	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM02-090624-HM	4091631-07	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM03-090624-HM	4091631-08	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM06-090624-HM	4091631-09	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM05-090724-HM	4091631-10	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM02-090724-HM	4091631-11	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM03-090724-HM	4091631-12	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM06-090724-HM	4091631-13	Air	09/07/24 23:59	09/16/24 12:34
MFL-FB01-090724-HM	4091631-14	Air	09/07/24 00:00	09/16/24 12:34
MFL-AM05-090824-HM	4091631-15	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM02-090824-HM	4091631-16	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM03-090824-HM	4091631-17	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM06-090824-HM	4091631-18	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM05-090924-HM	4091631-19	Air	09/09/24 23:59	09/16/24 12:34
MFL-AM02-090924-HM	4091631-20	Air	09/09/24 23:59	09/16/24 12:34
MFL-AM03-090924-HM	4091631-21	Air	09/09/24 23:59	09/16/24 12:34

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM06-090924-HM	4091631-22	Air	09/09/24 23:59	09/16/24 12:34
MFL-FB01-090924-HM	4091631-23	Air	09/09/24 00:00	09/16/24 12:34
MFL-AM05-091024-HM	4091631-24	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM02-091024-HM	4091631-25	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM03-091024-HM	4091631-26	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM06-091024-HM	4091631-27	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM05-091124-HM	4091631-28	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM02-091124-HM	4091631-29	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM03-091124-HM	4091631-30	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM06-091124-HM	4091631-31	Air	09/11/24 23:59	09/16/24 12:34
MFL-FB01-091124-HM	4091631-32	Air	09/11/24 00:00	09/16/24 12:34

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090524-HM
Matrix: Air
Lab ID: 4091631-01
Sample Volume: 1968.494 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 05:34

Comments: Q9537640 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0912**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.438**		**0.00774**
Barium	**7440-39-3**	**4.56**		**0.884**
Beryllium	**7440-41-7**	**0.0149**		**0.00264**
Cadmium	7440-43-9	0.0352	U	0.0612
Chromium	**7440-47-3**	**3.15**		**1.83**
Cobalt	**7440-48-4**	**0.491**		**0.0360**
Copper	**7440-50-8**	**26.9**		**2.17**
Lead	**7439-92-1**	**0.862**		**0.177**
Manganese	**7439-96-5**	**17.9**		**1.56**
Molybdenum	**7439-98-7**	**1.24**		**0.297**
Nickel	**7440-02-0**	**1.36**		**0.539**
Selenium	**7782-49-2**	**0.200**		**0.00741**
Thallium	**7440-28-0**	**0.00126**		**4.87E-4**
Vanadium	**7440-62-2**	**1.81**		**0.0437**
Zinc	7440-66-6	13.5	U	63.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090524-HM
Matrix: Air
Lab ID: 4091631-02
Sample Volume: 2059.945 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 05:49

Comments: Q9537639 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.472**		**0.00740**
Barium	**7440-39-3**	**8.03**		**0.845**
Beryllium	**7440-41-7**	**0.0240**		**0.00253**
Cadmium	7440-43-9	0.0216	U	0.0585
Chromium	**7440-47-3**	**4.20**		**1.75**
Cobalt	**7440-48-4**	**0.838**		**0.0344**
Copper	**7440-50-8**	**28.8**		**2.08**
Lead	**7439-92-1**	**1.87**		**0.169**
Manganese	**7439-96-5**	**26.1**		**1.49**
Molybdenum	**7439-98-7**	**1.08**		**0.284**
Nickel	**7440-02-0**	**2.27**		**0.515**
Selenium	**7782-49-2**	**0.238**		**0.00708**
Thallium	**7440-28-0**	**0.00109**		**4.65E-4**
Vanadium	**7440-62-2**	**2.80**		**0.0418**
Zinc	7440-66-6	22.3	U	60.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090524-HM
Matrix: Air
Lab ID: 4091631-03
Sample Volume: 1916.365 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:08

Comments: Q9537638 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0429**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.157**		**0.00796**
Barium	**7440-39-3**	**3.66**		**0.908**
Beryllium	**7440-41-7**	**0.0462**		**0.00272**
Cadmium	7440-43-9	0.0102	U	0.0629
Chromium	**7440-47-3**	**4.35**		**1.88**
Cobalt	**7440-48-4**	**0.601**		**0.0370**
Copper	**7440-50-8**	**39.2**		**2.23**
Lead	**7439-92-1**	**0.304**		**0.182**
Manganese	**7439-96-5**	**13.7**		**1.60**
Molybdenum	**7439-98-7**	**1.61**		**0.305**
Nickel	**7440-02-0**	**2.17**		**0.554**
Selenium	**7782-49-2**	**0.169**		**0.00761**
Thallium	**7440-28-0**	**5.68E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0449**
Zinc	7440-66-6	9.37	U	65.2

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090524-HM
Matrix: Air
Lab ID: 4091631-04
Sample Volume: 621.464 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:23

Comments: Q9537637 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.281**	SL	**0.101**
Arsenic	**7440-38-2**	**0.307**		**0.0245**
Barium	**7440-39-3**	**6.18**		**2.80**
Beryllium	**7440-41-7**	**0.0115**		**0.00838**
Cadmium	7440-43-9	0.0661	U	0.194
Chromium	**7440-47-3**	**7.79**		**5.79**
Cobalt	**7440-48-4**	**0.501**		**0.114**
Copper	**7440-50-8**	**91.2**		**6.89**
Lead	**7439-92-1**	**0.899**		**0.560**
Manganese	**7439-96-5**	**13.5**		**4.95**
Molybdenum	**7439-98-7**	**3.51**		**0.940**
Nickel	**7440-02-0**	**4.15**		**1.71**
Selenium	**7782-49-2**	**0.240**		**0.0235**
Thallium	7440-28-0	7.78E-4	U	0.00154
Vanadium	**7440-62-2**	**1.46**		**0.138**
Zinc	7440-66-6	38.0	U	201

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090524-HM
Matrix: Air
Lab ID: 4091631-05
Sample Volume: 1968.494 m³
Filter ID:
Sampled: 09/05/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:38

Comments: Q9537631 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00734	SL, U	0.0319
Arsenic	7440-38-2	0.00302	U	0.00774
Barium	7440-39-3	0.594	U	0.884
Beryllium	7440-41-7	9.13E-4	U	0.00264
Cadmium	7440-43-9	0.00336	U	0.0612
Chromium	7440-47-3	1.42	U	1.83
Cobalt	7440-48-4	0.0251	U	0.0360
Copper	7440-50-8	0.324	U	2.17
Lead	7439-92-1	0.0336	U	0.177
Manganese	7439-96-5	0.140	U	1.56
Molybdenum	7439-98-7	0.209	U	0.297
Nickel	7440-02-0	0.311	U	0.539
Selenium	7782-49-2	ND	U	0.00741
Thallium	7440-28-0	ND	U	4.87E-4
Vanadium	7440-62-2	0.0107	U	0.0437
Zinc	7440-66-6	2.94	U	63.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090624-HM
Matrix: Air
Lab ID: 4091631-06
Sample Volume: 2009.815 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:51

Comments: Q9537636 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0896**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.473**		**0.00759**
Barium	**7440-39-3**	**3.71**		**0.866**
Beryllium	**7440-41-7**	**0.00832**		**0.00259**
Cadmium	7440-43-9	0.0269	U	0.0600
Chromium	**7440-47-3**	**2.75**		**1.79**
Cobalt	**7440-48-4**	**0.327**		**0.0353**
Copper	**7440-50-8**	**19.5**		**2.13**
Lead	**7439-92-1**	**1.22**		**0.173**
Manganese	**7439-96-5**	**9.04**		**1.53**
Molybdenum	**7439-98-7**	**1.14**		**0.291**
Nickel	**7440-02-0**	**1.32**		**0.528**
Selenium	**7782-49-2**	**0.184**		**0.00725**
Thallium	7440-28-0	4.62E-4	U	4.77E-4
Vanadium	**7440-62-2**	**1.24**		**0.0428**
Zinc	7440-66-6	12.8	U	62.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090624-HM
Matrix: Air
Lab ID: 4091631-07
Sample Volume: 2052.191 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:06

Comments: Q9537635 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0904**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.338**		**0.00743**
Barium	**7440-39-3**	**7.59**		**0.848**
Beryllium	**7440-41-7**	**0.0180**		**0.00254**
Cadmium	7440-43-9	0.0250	U	0.0587
Chromium	**7440-47-3**	**3.52**		**1.75**
Cobalt	**7440-48-4**	**0.687**		**0.0346**
Copper	**7440-50-8**	**17.7**		**2.09**
Lead	**7439-92-1**	**0.743**		**0.170**
Manganese	**7439-96-5**	**20.1**		**1.50**
Molybdenum	**7439-98-7**	**0.893**		**0.285**
Nickel	**7440-02-0**	**1.93**		**0.517**
Selenium	**7782-49-2**	**0.240**		**0.00710**
Thallium	**7440-28-0**	**8.32E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0419**
Zinc	7440-66-6	12.3	U	60.9

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090624-HM
Matrix: Air
Lab ID: 4091631-08
Sample Volume: 1942.445 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 02:53

Comments: Q9537633 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0465**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.133**		**0.00785**
Barium	**7440-39-3**	**2.54**		**0.896**
Beryllium	**7440-41-7**	**0.0180**		**0.00268**
Cadmium	7440-43-9	0.0165	U	0.0621
Chromium	**7440-47-3**	**2.63**		**1.85**
Cobalt	**7440-48-4**	**0.362**		**0.0365**
Copper	**7440-50-8**	**32.8**	QM-07	**2.20**
Lead	**7439-92-1**	**0.260**		**0.179**
Manganese	**7439-96-5**	**7.87**		**1.58**
Molybdenum	**7439-98-7**	**1.77**	QM-07	**0.301**
Nickel	**7440-02-0**	**1.64**	QM-07	**0.546**
Selenium	**7782-49-2**	**0.165**		**0.00750**
Thallium	**7440-28-0**	**5.44E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.894**		**0.0443**
Zinc	7440-66-6	10.7	U	64.3

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090624-HM
Matrix: Air
Lab ID: 4091631-09
Sample Volume: 672.346 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:21

Comments: Q9537632 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.266**	SL	**0.0934**
Arsenic	**7440-38-2**	**0.635**		**0.0227**
Barium	**7440-39-3**	**9.93**		**2.59**
Beryllium	**7440-41-7**	**0.0169**		**0.00774**
Cadmium	7440-43-9	0.0455	U	0.179
Chromium	**7440-47-3**	**9.40**		**5.35**
Cobalt	**7440-48-4**	**0.661**		**0.106**
Copper	**7440-50-8**	**70.9**		**6.36**
Lead	**7439-92-1**	**1.39**		**0.518**
Manganese	**7439-96-5**	**19.9**		**4.57**
Molybdenum	**7439-98-7**	**2.52**		**0.869**
Nickel	**7440-02-0**	**4.47**		**1.58**
Selenium	**7782-49-2**	**0.208**		**0.0217**
Thallium	7440-28-0	4.80E-4	U	0.00143
Vanadium	**7440-62-2**	**1.75**		**0.128**
Zinc	7440-66-6	35.0	U	186

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090724-HM
Matrix: Air
Lab ID: 4091631-10
Sample Volume: 1950.28 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:35

Comments: Q9537636 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0918**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.222**		**0.00782**
Barium	**7440-39-3**	**3.32**		**0.893**
Beryllium	**7440-41-7**	**0.00671**		**0.00267**
Cadmium	7440-43-9	0.0171	U	0.0618
Chromium	**7440-47-3**	**2.21**		**1.84**
Cobalt	**7440-48-4**	**0.240**		**0.0364**
Copper	**7440-50-8**	**24.9**		**2.19**
Lead	**7439-92-1**	**0.565**		**0.179**
Manganese	**7439-96-5**	**6.88**		**1.58**
Molybdenum	**7439-98-7**	**1.52**		**0.299**
Nickel	**7440-02-0**	**0.898**		**0.544**
Selenium	**7782-49-2**	**0.160**		**0.00747**
Thallium	7440-28-0	2.57E-4	U	4.91E-4
Vanadium	**7440-62-2**	**0.866**		**0.0441**
Zinc	7440-66-6	11.0	U	64.1

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090724-HM
Matrix: Air
Lab ID: 4091631-11
Sample Volume: 2099.453 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:49

Comments: Q9537629 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.244**		**0.00726**
Barium	**7440-39-3**	**4.46**		**0.829**
Beryllium	**7440-41-7**	**0.00999**		**0.00248**
Cadmium	7440-43-9	0.0110	U	0.0574
Chromium	**7440-47-3**	**2.60**		**1.71**
Cobalt	**7440-48-4**	**0.361**		**0.0338**
Copper	**7440-50-8**	**21.4**		**2.04**
Lead	**7439-92-1**	**0.578**		**0.166**
Manganese	**7439-96-5**	**9.92**		**1.46**
Molybdenum	**7439-98-7**	**1.12**		**0.278**
Nickel	**7440-02-0**	**1.29**		**0.505**
Selenium	**7782-49-2**	**0.190**		**0.00694**
Thallium	**7440-28-0**	**4.88E-4**		**4.56E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0410**
Zinc	7440-66-6	12.0	U	59.5

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090724-HM
Matrix: Air
Lab ID: 4091631-12
Sample Volume: 1975.982 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 08:43

Comments: Q9537625 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0398**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.149**		**0.00772**
Barium	**7440-39-3**	**3.05**		**0.881**
Beryllium	**7440-41-7**	**0.0344**		**0.00263**
Cadmium	7440-43-9	0.0104	U	0.0610
Chromium	**7440-47-3**	**3.43**		**1.82**
Cobalt	**7440-48-4**	**0.501**		**0.0359**
Copper	**7440-50-8**	**31.9**		**2.17**
Lead	**7439-92-1**	**0.251**		**0.176**
Manganese	**7439-96-5**	**12.4**		**1.56**
Molybdenum	**7439-98-7**	**1.87**		**0.296**
Nickel	**7440-02-0**	**1.62**		**0.537**
Selenium	**7782-49-2**	**0.156**		**0.00738**
Thallium	**7440-28-0**	**7.89E-4**		**4.85E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0436**
Zinc	7440-66-6	7.79	U	63.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090724-HM
Matrix: Air
Lab ID: 4091631-13
Sample Volume: 1574.594 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 08:57

Comments: Q9537624 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0399**
Arsenic	**7440-38-2**	**0.146**		**0.00968**
Barium	**7440-39-3**	**4.71**		**1.11**
Beryllium	**7440-41-7**	**0.00612**		**0.00331**
Cadmium	7440-43-9	0.0104	U	0.0766
Chromium	**7440-47-3**	**2.59**		**2.28**
Cobalt	**7440-48-4**	**0.202**		**0.0451**
Copper	**7440-50-8**	**58.5**		**2.72**
Lead	**7439-92-1**	**0.419**		**0.221**
Manganese	**7439-96-5**	**5.68**		**1.95**
Molybdenum	**7439-98-7**	**1.54**		**0.371**
Nickel	**7440-02-0**	**0.949**		**0.674**
Selenium	**7782-49-2**	**0.125**		**0.00926**
Thallium	7440-28-0	1.95E-4	U	6.09E-4
Vanadium	**7440-62-2**	**0.653**		**0.0547**
Zinc	7440-66-6	13.3	U	79.4

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090724-HM
Matrix: Air
Lab ID: 4091631-14
Sample Volume: 1950.28 m³
Filter ID:
Sampled: 09/07/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:12

Comments: Q9537620 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00657	SL, U	0.0322
Arsenic	7440-38-2	0.00345	U	0.00782
Barium	7440-39-3	0.640	U	0.893
Beryllium	7440-41-7	8.92E-4	U	0.00267
Cadmium	7440-43-9	0.00349	U	0.0618
Chromium	7440-47-3	1.50	U	1.84
Cobalt	7440-48-4	0.0235	U	0.0364
Copper	7440-50-8	0.259	U	2.19
Lead	7439-92-1	0.0354	U	0.179
Manganese	7439-96-5	0.387	U	1.58
Molybdenum	7439-98-7	0.221	U	0.299
Nickel	7440-02-0	0.303	U	0.544
Selenium	7782-49-2	6.03E-4	U	0.00747
Thallium	7440-28-0	ND	U	4.91E-4
Vanadium	7440-62-2	0.00406	U	0.0441
Zinc	7440-66-6	2.50	U	64.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090824-HM
Matrix: Air
Lab ID: 4091631-15
Sample Volume: 2045.984 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:26

Comments: Q9537623 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0421**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.163**		**0.00745**
Barium	**7440-39-3**	**2.29**		**0.851**
Beryllium	**7440-41-7**	**0.00599**		**0.00254**
Cadmium	7440-43-9	0.0237	U	0.0589
Chromium	**7440-47-3**	**2.25**		**1.76**
Cobalt	**7440-48-4**	**0.240**		**0.0347**
Copper	**7440-50-8**	**24.9**		**2.09**
Lead	**7439-92-1**	**0.307**		**0.170**
Manganese	**7439-96-5**	**6.03**		**1.50**
Molybdenum	**7439-98-7**	**1.65**		**0.285**
Nickel	**7440-02-0**	**1.05**		**0.518**
Selenium	**7782-49-2**	**0.113**		**0.00713**
Thallium	7440-28-0	1.37E-4	U	4.68E-4
Vanadium	**7440-62-2**	**0.735**		**0.0421**
Zinc	7440-66-6	6.44	U	61.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090824-HM
Matrix: Air
Lab ID: 4091631-16
Sample Volume: 2067.515 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/17/24 22:28

Comments: Q9537621 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.227**		**0.00737**
Barium	**7440-39-3**	**4.21**		**0.842**
Beryllium	**7440-41-7**	**0.00909**		**0.00252**
Cadmium	7440-43-9	0.0123	U	0.0583
Chromium	**7440-47-3**	**2.44**		**1.74**
Cobalt	**7440-48-4**	**0.315**		**0.0343**
Copper	**7440-50-8**	**18.7**		**2.07**
Lead	**7439-92-1**	**0.648**		**0.168**
Manganese	**7439-96-5**	**9.11**		**1.49**
Molybdenum	**7439-98-7**	**1.06**		**0.283**
Nickel	**7440-02-0**	**1.12**		**0.513**
Selenium	**7782-49-2**	**0.157**		**0.00705**
Thallium	7440-28-0	4.47E-4	U	4.64E-4
Vanadium	**7440-62-2**	**1.03**		**0.0416**
Zinc	7440-66-6	14.1	U	60.4

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090824-HM
Matrix: Air
Lab ID: 4091631-17
Sample Volume: 1998.927 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:40

Comments: Q9537618 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0207	SL, U	0.0314
Arsenic	**7440-38-2**	**0.0826**		**0.00763**
Barium	**7440-39-3**	**2.87**		**0.871**
Beryllium	**7440-41-7**	**0.0106**		**0.00260**
Cadmium	7440-43-9	0.00983	U	0.0603
Chromium	**7440-47-3**	**2.20**		**1.80**
Cobalt	**7440-48-4**	**0.224**		**0.0355**
Copper	**7440-50-8**	**44.0**		**2.14**
Lead	**7439-92-1**	**0.180**		**0.174**
Manganese	**7439-96-5**	**5.74**		**1.54**
Molybdenum	**7439-98-7**	**2.41**		**0.292**
Nickel	**7440-02-0**	**1.19**		**0.531**
Selenium	**7782-49-2**	**0.116**		**0.00729**
Thallium	7440-28-0	2.07E-4	U	4.79E-4
Vanadium	**7440-62-2**	**0.578**		**0.0431**
Zinc	7440-66-6	6.80	U	62.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090824-HM
Matrix: Air
Lab ID: 4091631-18
Sample Volume: 1669.952 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:55

Comments: Q9537617 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0376**
Arsenic	**7440-38-2**	**0.134**		**0.00913**
Barium	**7440-39-3**	**3.93**		**1.04**
Beryllium	**7440-41-7**	**0.00659**		**0.00312**
Cadmium	7440-43-9	0.0135	U	0.0722
Chromium	**7440-47-3**	**2.51**		**2.15**
Cobalt	**7440-48-4**	**0.242**		**0.0425**
Copper	**7440-50-8**	**35.7**		**2.56**
Lead	**7439-92-1**	**0.351**		**0.208**
Manganese	**7439-96-5**	**6.42**		**1.84**
Molybdenum	**7439-98-7**	**1.38**		**0.350**
Nickel	**7440-02-0**	**1.09**		**0.635**
Selenium	**7782-49-2**	**0.128**		**0.00873**
Thallium	7440-28-0	2.05E-4	U	5.74E-4
Vanadium	**7440-62-2**	**0.727**		**0.0515**
Zinc	7440-66-6	10.1	U	74.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090924-HM
Matrix: Air
Lab ID: 4091631-19
Sample Volume: 1981.678 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:09

Comments: Q9537616 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0617**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.183**		**0.00769**
Barium	**7440-39-3**	**2.37**		**0.878**
Beryllium	**7440-41-7**	**0.00477**		**0.00263**
Cadmium	7440-43-9	0.0146	U	0.0608
Chromium	**7440-47-3**	**1.92**		**1.81**
Cobalt	**7440-48-4**	**0.192**		**0.0358**
Copper	**7440-50-8**	**33.5**		**2.16**
Lead	**7439-92-1**	**0.573**		**0.176**
Manganese	**7439-96-5**	**4.52**		**1.55**
Molybdenum	**7439-98-7**	**2.33**		**0.295**
Nickel	**7440-02-0**	**0.657**		**0.535**
Selenium	**7782-49-2**	**0.136**		**0.00736**
Thallium	7440-28-0	1.96E-4	U	4.84E-4
Vanadium	**7440-62-2**	**0.509**		**0.0434**
Zinc	7440-66-6	9.28	U	63.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090924-HM
Matrix: Air
Lab ID: 4091631-20
Sample Volume: 2059.077 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:24

Comments: Q9537614 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.165**		**0.00740**
Barium	**7440-39-3**	**5.36**		**0.845**
Beryllium	**7440-41-7**	**0.00817**		**0.00253**
Cadmium	7440-43-9	0.0107	U	0.0586
Chromium	**7440-47-3**	**2.57**		**1.75**
Cobalt	**7440-48-4**	**0.276**		**0.0345**
Copper	**7440-50-8**	**22.4**		**2.08**
Lead	**7439-92-1**	**0.580**		**0.169**
Manganese	**7439-96-5**	**8.80**		**1.49**
Molybdenum	**7439-98-7**	**1.46**		**0.284**
Nickel	**7440-02-0**	**1.11**		**0.515**
Selenium	**7782-49-2**	**0.163**		**0.00708**
Thallium	7440-28-0	3.36E-4	U	4.65E-4
Vanadium	**7440-62-2**	**0.913**		**0.0418**
Zinc	7440-66-6	15.5	U	60.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090924-HM
Matrix: Air
Lab ID: 4091631-21
Sample Volume: 1997.257 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:38

Comments: Q9537611 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0315**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.140**		**0.00763**
Barium	**7440-39-3**	**2.68**		**0.872**
Beryllium	**7440-41-7**	**0.0284**		**0.00261**
Cadmium	7440-43-9	0.00826	U	0.0604
Chromium	**7440-47-3**	**2.95**		**1.80**
Cobalt	**7440-48-4**	**0.385**		**0.0355**
Copper	**7440-50-8**	**34.8**		**2.14**
Lead	**7439-92-1**	**0.294**		**0.174**
Manganese	**7439-96-5**	**8.99**		**1.54**
Molybdenum	**7439-98-7**	**2.04**		**0.292**
Nickel	**7440-02-0**	**1.18**		**0.531**
Selenium	**7782-49-2**	**0.147**		**0.00730**
Thallium	7440-28-0	3.10E-4	U	4.80E-4
Vanadium	**7440-62-2**	**0.949**		**0.0431**
Zinc	7440-66-6	7.67	U	62.6

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090924-HM
Matrix: Air
Lab ID: 4091631-22
Sample Volume: 1768.761 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:53

Comments: Q9537611 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.226**		**0.00862**
Barium	**7440-39-3**	**4.89**		**0.984**
Beryllium	**7440-41-7**	**0.00816**		**0.00294**
Cadmium	7440-43-9	0.0186	U	0.0682
Chromium	**7440-47-3**	**2.62**		**2.03**
Cobalt	**7440-48-4**	**0.268**		**0.0401**
Copper	**7440-50-8**	**31.9**		**2.42**
Lead	**7439-92-1**	**0.743**		**0.197**
Manganese	**7439-96-5**	**7.88**		**1.74**
Molybdenum	**7439-98-7**	**1.41**		**0.330**
Nickel	**7440-02-0**	**1.18**		**0.600**
Selenium	**7782-49-2**	**0.150**		**0.00824**
Thallium	7440-28-0	1.90E-4	U	5.42E-4
Vanadium	**7440-62-2**	**0.744**		**0.0487**
Zinc	7440-66-6	13.5	U	70.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090924-HM
Matrix: Air
Lab ID: 4091631-23
Sample Volume: 1981.678 m³
Filter ID:
Sampled: 09/09/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:02

Comments: Q9537603 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00722	SL, U	0.0317
Arsenic	7440-38-2	0.00388	U	0.00769
Barium	7440-39-3	0.597	U	0.878
Beryllium	7440-41-7	7.46E-4	U	0.00263
Cadmium	7440-43-9	0.00354	U	0.0608
Chromium	7440-47-3	1.52	U	1.81
Cobalt	**7440-48-4**	**0.0470**	FB-01	**0.0358**
Copper	7440-50-8	0.346	U	2.16
Lead	7439-92-1	0.0335	U	0.176
Manganese	7439-96-5	0.154	U	1.55
Molybdenum	7439-98-7	0.240	U	0.295
Nickel	7440-02-0	0.378	U	0.535
Selenium	7782-49-2	0.00383	U	0.00736
Thallium	7440-28-0	ND	U	4.84E-4
Vanadium	7440-62-2	0.00433	U	0.0434
Zinc	7440-66-6	2.42	U	63.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091024-HM
Matrix: Air
Lab ID: 4091631-24
Sample Volume: 1965.198 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:16

Comments: Q9537608 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0570**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.155**		**0.00776**
Barium	**7440-39-3**	**2.75**		**0.886**
Beryllium	**7440-41-7**	**0.00734**		**0.00265**
Cadmium	7440-43-9	0.0447	U	0.0613
Chromium	**7440-47-3**	**2.39**		**1.83**
Cobalt	**7440-48-4**	**0.251**		**0.0361**
Copper	**7440-50-8**	**30.1**		**2.18**
Lead	**7439-92-1**	**0.364**		**0.177**
Manganese	**7439-96-5**	**7.30**		**1.56**
Molybdenum	**7439-98-7**	**2.04**		**0.297**
Nickel	**7440-02-0**	**1.08**		**0.540**
Selenium	**7782-49-2**	**0.138**		**0.00742**
Thallium	7440-28-0	2.85E-4	U	4.88E-4
Vanadium	**7440-62-2**	**1.04**		**0.0438**
Zinc	7440-66-6	9.48	U	63.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091024-HM
Matrix: Air
Lab ID: 4091631-25
Sample Volume: 2070.988 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:45

Comments: Q9537607 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.210**		**0.00736**
Barium	**7440-39-3**	**6.16**		**0.841**
Beryllium	**7440-41-7**	**0.0135**		**0.00251**
Cadmium	7440-43-9	0.0117	U	0.0582
Chromium	**7440-47-3**	**2.99**		**1.74**
Cobalt	**7440-48-4**	**0.478**		**0.0343**
Copper	**7440-50-8**	**28.8**		**2.07**
Lead	**7439-92-1**	**0.750**		**0.168**
Manganese	**7439-96-5**	**14.6**		**1.48**
Molybdenum	**7439-98-7**	**1.86**		**0.282**
Nickel	**7440-02-0**	**1.45**		**0.512**
Selenium	**7782-49-2**	**0.164**		**0.00704**
Thallium	**7440-28-0**	**5.35E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0416**
Zinc	7440-66-6	15.4	U	60.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091024-HM
Matrix: Air
Lab ID: 4091631-26
Sample Volume: 1993.082 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:01

Comments: Q9537605 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0366**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.135**		**0.00765**
Barium	**7440-39-3**	**2.62**		**0.873**
Beryllium	**7440-41-7**	**0.0161**		**0.00261**
Cadmium	7440-43-9	0.0111	U	0.0605
Chromium	**7440-47-3**	**3.30**		**1.80**
Cobalt	**7440-48-4**	**0.403**		**0.0356**
Copper	**7440-50-8**	**38.2**		**2.15**
Lead	**7439-92-1**	**0.299**		**0.175**
Manganese	**7439-96-5**	**9.43**		**1.54**
Molybdenum	**7439-98-7**	**2.38**		**0.293**
Nickel	**7440-02-0**	**1.71**		**0.532**
Selenium	**7782-49-2**	**0.119**		**0.00731**
Thallium	7440-28-0	2.60E-4	U	4.81E-4
Vanadium	**7440-62-2**	**1.17**		**0.0432**
Zinc	7440-66-6	7.41	U	62.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091024-HM
Matrix: Air
Lab ID: 4091631-27
Sample Volume: 1730.549 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:15

Comments: Q9537604 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0363**
Arsenic	**7440-38-2**	**0.179**		**0.00881**
Barium	**7440-39-3**	**4.32**		**1.01**
Beryllium	**7440-41-7**	**0.00753**		**0.00301**
Cadmium	7440-43-9	0.0151	U	0.0697
Chromium	**7440-47-3**	**3.46**		**2.08**
Cobalt	**7440-48-4**	**0.254**		**0.0410**
Copper	**7440-50-8**	**17.7**		**2.47**
Lead	**7439-92-1**	**0.812**		**0.201**
Manganese	**7439-96-5**	**7.13**		**1.78**
Molybdenum	**7439-98-7**	**0.964**		**0.338**
Nickel	**7440-02-0**	**1.32**		**0.613**
Selenium	**7782-49-2**	**0.102**		**0.00842**
Thallium	7440-28-0	1.66E-4	U	5.54E-4
Vanadium	**7440-62-2**	**0.909**		**0.0497**
Zinc	7440-66-6	12.0	U	72.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091124-HM
Matrix: Air
Lab ID: 4091631-28
Sample Volume: 2012.339 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:29

Comments: Q9537602 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0776**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.393**		**0.00758**
Barium	**7440-39-3**	**6.66**		**0.865**
Beryllium	**7440-41-7**	**0.0215**		**0.00259**
Cadmium	**7440-43-9**	**0.150**		**0.0599**
Chromium	**7440-47-3**	**5.67**		**1.79**
Cobalt	**7440-48-4**	**1.10**		**0.0353**
Copper	**7440-50-8**	**40.7**		**2.13**
Lead	**7439-92-1**	**0.508**		**0.173**
Manganese	**7439-96-5**	**25.5**		**1.53**
Molybdenum	**7439-98-7**	**2.56**		**0.290**
Nickel	**7440-02-0**	**3.16**		**0.527**
Selenium	**7782-49-2**	**0.183**		**0.00724**
Thallium	**7440-28-0**	**9.88E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**3.54**		**0.0428**
Zinc	7440-66-6	12.0	U	62.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091124-HM
Matrix: Air
Lab ID: 4091631-29
Sample Volume: 2055.596 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:44

Comments: Q9537598 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0890**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.300**		**0.00742**
Barium	**7440-39-3**	**5.11**		**0.847**
Beryllium	**7440-41-7**	**0.0140**		**0.00253**
Cadmium	7440-43-9	0.0181	U	0.0586
Chromium	**7440-47-3**	**4.01**		**1.75**
Cobalt	**7440-48-4**	**0.610**		**0.0345**
Copper	**7440-50-8**	**27.9**		**2.08**
Lead	**7439-92-1**	**0.626**		**0.169**
Manganese	**7439-96-5**	**15.6**		**1.50**
Molybdenum	**7439-98-7**	**1.69**		**0.284**
Nickel	**7440-02-0**	**1.89**		**0.516**
Selenium	**7782-49-2**	**0.163**		**0.00709**
Thallium	**7440-28-0**	**6.37E-4**		**4.66E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0419**
Zinc	7440-66-6	10.8	U	60.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091124-HM
Matrix: Air
Lab ID: 4091631-30
Sample Volume: 1983.423 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 14:00

Comments: Q9537596 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0384**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.160**		**0.00769**
Barium	**7440-39-3**	**2.56**		**0.878**
Beryllium	**7440-41-7**	**0.0146**		**0.00262**
Cadmium	7440-43-9	0.0120	U	0.0608
Chromium	**7440-47-3**	**2.79**		**1.81**
Cobalt	**7440-48-4**	**0.378**		**0.0358**
Copper	**7440-50-8**	**42.3**		**2.16**
Lead	**7439-92-1**	**0.319**		**0.176**
Manganese	**7439-96-5**	**9.78**		**1.55**
Molybdenum	**7439-98-7**	**2.24**		**0.294**
Nickel	**7440-02-0**	**1.35**		**0.535**
Selenium	**7782-49-2**	**0.120**		**0.00735**
Thallium	7440-28-0	3.13E-4	U	4.83E-4
Vanadium	**7440-62-2**	**1.06**		**0.0434**
Zinc	7440-66-6	9.11	U	63.0

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091124-HM
Matrix: Air
Lab ID: 4091631-31
Sample Volume: 1600.438 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 15:10

Comments: Q9537594 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.154**	SL	**0.0392**
Arsenic	**7440-38-2**	**0.197**		**0.00953**
Barium	**7440-39-3**	**6.82**		**1.09**
Beryllium	**7440-41-7**	**0.00967**		**0.00325**
Cadmium	7440-43-9	0.0175	U	0.0753
Chromium	**7440-47-3**	**3.80**		**2.25**
Cobalt	**7440-48-4**	**0.400**		**0.0443**
Copper	**7440-50-8**	**27.6**		**2.67**
Lead	**7439-92-1**	**0.765**		**0.218**
Manganese	**7439-96-5**	**10.0**		**1.92**
Molybdenum	**7439-98-7**	**1.51**		**0.365**
Nickel	**7440-02-0**	**1.59**		**0.663**
Selenium	**7782-49-2**	**0.123**		**0.00911**
Thallium	7440-28-0	3.87E-4	U	5.99E-4
Vanadium	**7440-62-2**	**1.08**		**0.0538**
Zinc	7440-66-6	15.5	U	78.1

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091124-HM
Matrix: Air
Lab ID: 4091631-32
Sample Volume: 2012.339 m³
Filter ID:
Sampled: 09/11/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 15:41

Comments: Q9537590 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00734	SL, U	0.0312
Arsenic	7440-38-2	0.00702	U	0.00758
Barium	7440-39-3	0.662	U	0.865
Beryllium	7440-41-7	8.38E-4	U	0.00259
Cadmium	7440-43-9	0.00403	U	0.0599
Chromium	7440-47-3	1.48	U	1.79
Cobalt	7440-48-4	0.0248	U	0.0353
Copper	7440-50-8	1.20	U	2.13
Lead	7439-92-1	0.0728	U	0.173
Manganese	7439-96-5	0.248	U	1.53
Molybdenum	7439-98-7	0.245	U	0.290
Nickel	7440-02-0	0.313	U	0.527
Selenium	7782-49-2	9.01E-4	U	0.00724
Thallium	7440-28-0	ND	U	4.76E-4
Vanadium	7440-62-2	0.0140	U	0.0428
Zinc	7440-66-6	3.05	U	62.1

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Blank (2409078-CCB1)				Prepared & Analyzed: 09/17/24						
Antimony	0.222		ng/l							
Arsenic	-3.38		ng/l							U
Barium	2.48		ng/l							
Beryllium	0.118		ng/l							
Cadmium	0.168		ng/l							
Chromium	1.75		ng/l							
Cobalt	0.239		ng/l							
Copper	11.9		ng/l							
Lead	-0.331		ng/l							U
Manganese	5.32		ng/l							
Molybdenum	15.8		ng/l							
Nickel	3.71		ng/l							
Selenium	-9.68		ng/l							U
Thallium	0.476		ng/l							
Vanadium	-56.6		ng/l							U
Zinc	87.0		ng/l							
Calibration Blank (2409078-CCB2)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	-0.147		ng/l							U
Arsenic	2.19		ng/l							
Barium	4.55		ng/l							
Beryllium	0.107		ng/l							
Cadmium	0.346		ng/l							
Chromium	2.16		ng/l							
Cobalt	0.511		ng/l							
Copper	34.6		ng/l							
Lead	-7.12		ng/l							U
Manganese	7.82		ng/l							
Molybdenum	0.152		ng/l							
Nickel	5.11		ng/l							
Selenium	-4.26		ng/l							U
Thallium	0.204		ng/l							
Vanadium	-75.2		ng/l							U
Zinc	-15.8		ng/l							U
Calibration Blank (2409078-CCB3)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	-0.0588		ng/l							U
Arsenic	0.610		ng/l							
Barium	2.47		ng/l							
Beryllium	0.190		ng/l							

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SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Blank (2409078-CCB3) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Cadmium	0.158		ng/l							
Chromium	1.39		ng/l							
Cobalt	0.222		ng/l							
Copper	10.6		ng/l							
Lead	-10.7		ng/l							U
Manganese	2.89		ng/l							
Molybdenum	-1.59		ng/l							U
Nickel	4.19		ng/l							
Selenium	-2.77		ng/l							U
Thallium	-0.273		ng/l							U
Vanadium	-78.4		ng/l							U
Zinc	-40.0		ng/l							U
Calibration Blank (2409078-CCB4)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.478		ng/l							
Arsenic	5.61		ng/l							
Barium	1.80		ng/l							
Beryllium	0.0129		ng/l							
Cadmium	0.125		ng/l							
Chromium	2.43		ng/l							
Cobalt	0.367		ng/l							
Copper	73.9		ng/l							
Lead	-7.86		ng/l							U
Manganese	4.46		ng/l							
Molybdenum	14.2		ng/l							
Nickel	6.07		ng/l							
Selenium	-4.88		ng/l							U
Thallium	1.23		ng/l							
Vanadium	-82.3		ng/l							U
Zinc	-4.65		ng/l							U
Calibration Blank (2409078-CCB5)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.159		ng/l							
Arsenic	3.52		ng/l							
Barium	2.45		ng/l							
Beryllium	-0.660		ng/l							U
Cadmium	0.0622		ng/l							
Chromium	2.68		ng/l							
Cobalt	0.271		ng/l							
Copper	18.8		ng/l							

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Blank (2409078-CCB5) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Lead	-12.0		ng/l							U
Manganese	3.64		ng/l							
Molybdenum	-2.53		ng/l							U
Nickel	5.57		ng/l							
Selenium	7.51		ng/l							
Thallium	-0.484		ng/l							U
Vanadium	-81.0		ng/l							U
Zinc	-27.3		ng/l							U
Calibration Blank (2409078-CCB6)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.238		ng/l							
Arsenic	6.80		ng/l							
Barium	2.34		ng/l							
Beryllium	-0.943		ng/l							U
Cadmium	0.0273		ng/l							
Chromium	2.44		ng/l							
Cobalt	0.303		ng/l							
Copper	12.2		ng/l							
Lead	-12.0		ng/l							U
Manganese	4.21		ng/l							
Molybdenum	-1.52		ng/l							U
Nickel	6.76		ng/l							
Selenium	7.37		ng/l							
Thallium	-0.364		ng/l							U
Vanadium	-82.7		ng/l							U
Zinc	-7.58		ng/l							U
Calibration Blank (2409078-CCB7)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.232		ng/l							
Arsenic	6.17		ng/l							
Barium	3.76		ng/l							
Beryllium	-0.632		ng/l							U
Cadmium	0.267		ng/l							
Chromium	2.98		ng/l							
Cobalt	0.324		ng/l							
Copper	23.0		ng/l							
Lead	-11.1		ng/l							U
Manganese	5.96		ng/l							
Molybdenum	0.895		ng/l							
Nickel	6.15		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Blank (2409078-CCB7) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Selenium	-6.94		ng/l							U
Thallium	0.0469		ng/l							
Vanadium	-85.1		ng/l							U
Zinc	-1.08		ng/l							U
Calibration Check (2409078-CCV1)				Prepared & Analyzed: 09/17/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.7	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2409078-CCV2)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	505		ng/l	500.00		101	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	527000		ng/l	500000		105	90-110			

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Check (2409078-CCV3)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	216000		ng/l	200000		108	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2409078-CCV4)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2409078-CCV5)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5280		ng/l	5000.0		106	90-110			

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REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Check (2409078-CCV5) Contin					Prepared: 09/17/24 Analyzed: 09/18/24					
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2409078-CCV6)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	499		ng/l	500.00		99.9	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2409078-CCV7)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Check (2409078-CCV7) Contin					Prepared: 09/17/24 Analyzed: 09/18/24					
Lead	207000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	531000		ng/l	500000		106	90-110			
High Cal Check (2409078-HCV1)					Prepared & Analyzed: 09/17/24					
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	402000		ng/l	400000		101	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	474000		ng/l	480000		98.8	95-105			
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.6	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	99400		ng/l	100000		99.4	95-105			
Nickel	237000		ng/l	240000		98.8	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39800		ng/l	40000		99.4	95-105			
Zinc	996000		ng/l	1.0000E6		99.6	95-105			
Initial Cal Blank (2409078-ICB1)					Prepared & Analyzed: 09/17/24					
Antimony	0.0763		ng/l							
Arsenic	-2.64		ng/l							U
Barium	2.64		ng/l							
Beryllium	0.0544		ng/l							
Cadmium	-0.0114		ng/l							U
Chromium	1.91		ng/l							
Cobalt	0.219		ng/l							
Copper	15.6		ng/l							
Lead	-3.20		ng/l							U
Manganese	4.50		ng/l							
Molybdenum	1.77		ng/l							
Nickel	-0.379		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Initial Cal Blank (2409078-ICB1) Continu				Prepared & Analyzed: 09/17/24						
Selenium	-7.22		ng/l							U
Thallium	0.151		ng/l							
Vanadium	-14.4		ng/l							U
Zinc	-22.8		ng/l							U
Initial Cal Check (2409078-ICV1)				Prepared & Analyzed: 09/17/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	19700		ng/l	20000		98.4	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	4910		ng/l	5000.0		98.1	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	48600		ng/l	50000		97.1	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2409078-IFA1)				Prepared & Analyzed: 09/17/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Interference Check B (2409078-IFB1)					Prepared & Analyzed: 09/17/24					
Antimony	20900		ng/l	20000		104	80-120			
Arsenic	20700		ng/l	20000		104	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4850		ng/l	5000.0		97.0	80-120			
Cadmium	20200		ng/l	20000		101	80-120			
Chromium	233000		ng/l	240000		97.0	80-120			
Cobalt	49800		ng/l	50000		99.6	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.7	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	516000		ng/l	500000		103	80-120			
Molybdenum	375000		ng/l	350000		107	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	19600		ng/l	20000		98.2	80-120			
Thallium	530		ng/l	500.00		106	80-120			
Vanadium	19800		ng/l	20000		98.8	80-120			
Zinc	481000		ng/l	500000		96.2	80-120			
Batch B4I1708 - ICP-MS Extraction										
Blank (B4I1708-BLK1)					Prepared & Analyzed: 09/17/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4I1708-BS1)					Prepared & Analyzed: 09/17/24					
Antimony	0.733	0.0386	ng/m³ Air	1.3829		53.0	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.9	1.07	ng/m³ Air	27.658		105	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
LCS (B4I1708-BS1) Continued					Prepared & Analyzed: 09/17/24					
Beryllium	1.42	0.00320	ng/m³ Air	1.3829		103	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.8	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.2	80-120			
Manganese	8.67	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.08	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.1	80-120			
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		100	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	90.8	76.8	ng/m³ Air	82.975		109	80-120			
LCS (B4I1708-BS2)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.701	0.0386	ng/m³ Air	1.3829		50.7	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	30.3	1.07	ng/m³ Air	27.658		109	80-120			
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		95.0	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.7	80-120			
Manganese	8.63	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.01	0.652	ng/m³ Air	2.7658		109	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.141	5.89E-4	ng/m³ Air	0.13829		102	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	90.9	76.8	ng/m³ Air	82.975		110	80-120			
Duplicate (B4I1708-DUP1)		**Source: 4091631-16**			Prepared & Analyzed: 09/17/24					
Antimony	0.121	0.0304	ng/m³ Air		0.129			6.03	10	SL
Arsenic	0.240	0.00737	ng/m³ Air		0.227			5.60	10	
Barium	4.11	0.842	ng/m³ Air		4.21			2.55	10	
Beryllium	0.00952	0.00252	ng/m³ Air		0.00909			4.68	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	2.64	1.74	ng/m³ Air		2.44			7.75	10	
Cobalt	0.315	0.0343	ng/m³ Air		0.315			0.187	10	

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REPORTED: 09/24/24 13:55
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Duplicate (B4I1708-DUP1) Continued			**Source: 4091631-16**		Prepared & Analyzed: 09/17/24					
Copper	18.2	2.07	ng/m³ Air		18.7			2.48	10	
Lead	0.618	0.168	ng/m³ Air		0.648			4.70	10	
Manganese	9.27	1.49	ng/m³ Air		9.11			1.76	10	
Molybdenum	1.08	0.283	ng/m³ Air		1.06			1.34	10	
Nickel	1.07	0.513	ng/m³ Air		1.12			3.89	10	
Selenium	0.151	0.00705	ng/m³ Air		0.157			3.32	10	
Thallium	ND	4.64E-4	ng/m³ Air		ND				10	U
Vanadium	1.06	0.0416	ng/m³ Air		1.03			2.72	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP2)			**Source: 4091631-08**		Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.0475	0.0323	ng/m³ Air		0.0465			2.25	10	SL
Arsenic	0.144	0.00785	ng/m³ Air		0.133			7.80	10	
Barium	2.61	0.896	ng/m³ Air		2.54			2.53	10	
Beryllium	0.0184	0.00268	ng/m³ Air		0.0180			2.29	10	
Cadmium	ND	0.0621	ng/m³ Air		ND				10	U
Chromium	2.81	1.85	ng/m³ Air		2.63			6.63	10	
Cobalt	0.359	0.0365	ng/m³ Air		0.362			0.692	10	
Copper	36.8	2.20	ng/m³ Air		32.8			11.3	10	
Lead	0.236	0.179	ng/m³ Air		0.260			9.57	10	
Manganese	8.51	1.58	ng/m³ Air		7.87			7.90	10	
Molybdenum	1.73	0.301	ng/m³ Air		1.77			2.08	10	
Nickel	1.89	0.546	ng/m³ Air		1.64			13.7	10	
Selenium	0.181	0.00750	ng/m³ Air		0.165			9.51	10	
Thallium	5.42E-4	4.93E-4	ng/m³ Air		5.44E-4			0.303	10	
Vanadium	0.970	0.0443	ng/m³ Air		0.894			8.24	10	
Zinc	ND	64.3	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP3)			**Source: 4091631-24**		Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.0576	0.0320	ng/m³ Air		0.0570			1.01	10	SL
Arsenic	0.158	0.00776	ng/m³ Air		0.155			1.86	10	
Barium	2.79	0.886	ng/m³ Air		2.75			1.47	10	
Beryllium	0.00732	0.00265	ng/m³ Air		0.00734			0.383	10	
Cadmium	ND	0.0613	ng/m³ Air		ND				10	U
Chromium	2.43	1.83	ng/m³ Air		2.39			1.65	10	
Cobalt	0.253	0.0361	ng/m³ Air		0.251			0.893	10	
Copper	30.5	2.18	ng/m³ Air		30.1			1.19	10	
Lead	0.367	0.177	ng/m³ Air		0.364			0.913	10	
Manganese	7.38	1.56	ng/m³ Air		7.30			1.12	10	
Molybdenum	2.05	0.297	ng/m³ Air		2.04			0.482	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Duplicate (B4I1708-DUP3) Continued		**Source: 4091631-24**		Prepared: 09/17/24 Analyzed: 09/18/24						
Nickel	1.09	0.540	ng/m³ Air		1.08			1.30	10	
Selenium	0.132	0.00742	ng/m³ Air		0.138			4.54	10	
Thallium	ND	4.88E-4	ng/m³ Air		ND				10	U
Vanadium	1.05	0.0438	ng/m³ Air		1.04			0.571	10	
Zinc	ND	63.6	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP4)		**Source: 4091631-31**		Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.152	0.0392	ng/m³ Air		0.154			1.62	10	SL
Arsenic	0.195	0.00953	ng/m³ Air		0.197			0.846	10	
Barium	6.82	1.09	ng/m³ Air		6.82			0.0541	10	
Beryllium	0.00939	0.00325	ng/m³ Air		0.00967			2.93	10	
Cadmium	ND	0.0753	ng/m³ Air		ND				10	U
Chromium	3.71	2.25	ng/m³ Air		3.80			2.35	10	
Cobalt	0.394	0.0443	ng/m³ Air		0.400			1.47	10	
Copper	27.2	2.67	ng/m³ Air		27.6			1.55	10	
Lead	0.760	0.218	ng/m³ Air		0.765			0.735	10	
Manganese	9.90	1.92	ng/m³ Air		10.0			1.54	10	
Molybdenum	1.50	0.365	ng/m³ Air		1.51			0.628	10	
Nickel	1.57	0.663	ng/m³ Air		1.59			1.18	10	
Selenium	0.118	0.00911	ng/m³ Air		0.123			3.77	10	
Thallium	ND	5.99E-4	ng/m³ Air		ND				10	U
Vanadium	1.06	0.0538	ng/m³ Air		1.08			1.64	10	
Zinc	ND	78.1	ng/m³ Air		ND				10	U
Matrix Spike (B4I1708-MS1)		**Source: 4091631-16**		Prepared & Analyzed: 09/17/24						
Antimony	0.660	0.0304	ng/m³ Air	1.0883	0.129	48.8	80-120			SL
Arsenic	2.38	0.00737	ng/m³ Air	2.1765	0.227	98.9	80-120			
Barium	26.5	0.842	ng/m³ Air	21.765	4.21	103	80-120			
Beryllium	1.05	0.00252	ng/m³ Air	1.0883	0.00909	95.8	80-120			
Cadmium	1.10	0.0583	ng/m³ Air	1.0883	ND	101	80-120			
Chromium	13.4	1.74	ng/m³ Air	10.883	2.44	101	80-120			
Cobalt	1.34	0.0343	ng/m³ Air	1.0883	0.315	94.4	80-120			
Copper	40.4	2.07	ng/m³ Air	21.765	18.7	99.7	80-120			
Lead	11.3	0.168	ng/m³ Air	10.883	0.648	97.4	80-120			
Manganese	15.8	1.49	ng/m³ Air	6.5296	9.11	102	80-120			
Molybdenum	2.20	0.283	ng/m³ Air	1.0883	1.06	105	80-120			
Nickel	3.21	0.513	ng/m³ Air	2.1765	1.12	96.3	80-120			
Selenium	2.27	0.00705	ng/m³ Air	2.1765	0.157	97.3	80-120			
Thallium	0.110	4.64E-4	ng/m³ Air	0.10883	ND	101	80-120			
Vanadium	3.16	0.0416	ng/m³ Air	2.1765	1.03	98.0	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Matrix Spike (B4I1708-MS1) Continued Source: 4091631-16 Prepared & Analyzed: 09/17/24										
Zinc	82.2	60.4	ng/m³ Air	65.296	ND	126	80-120			
Matrix Spike (B4I1708-MS2) Source: 4091631-08 Prepared: 09/17/24 Analyzed: 09/18/24										
Antimony	0.614	0.0323	ng/m³ Air	1.1583	0.0465	49.0	80-120			SL
Arsenic	2.44	0.00785	ng/m³ Air	2.3167	0.133	99.5	80-120			
Barium	27.5	0.896	ng/m³ Air	23.167	2.54	108	80-120			
Beryllium	1.16	0.00268	ng/m³ Air	1.1583	0.0180	98.6	80-120			
Cadmium	1.19	0.0621	ng/m³ Air	1.1583	ND	103	80-120			
Chromium	14.3	1.85	ng/m³ Air	11.583	2.63	101	80-120			
Cobalt	1.43	0.0365	ng/m³ Air	1.1583	0.362	92.0	80-120			
Copper	55.8	2.20	ng/m³ Air	23.167	32.8	99.0	80-120			
Lead	11.6	0.179	ng/m³ Air	11.583	0.260	98.1	80-120			
Manganese	15.1	1.58	ng/m³ Air	6.9500	7.87	105	80-120			
Molybdenum	2.78	0.301	ng/m³ Air	1.1583	1.77	87.5	80-120			
Nickel	3.65	0.546	ng/m³ Air	2.3167	1.64	86.8	80-120			
Selenium	2.51	0.00750	ng/m³ Air	2.3167	0.165	101	80-120			
Thallium	0.117	4.93E-4	ng/m³ Air	0.11583	5.44E-4	100	80-120			
Vanadium	3.21	0.0443	ng/m³ Air	2.3167	0.894	99.8	80-120			
Zinc	82.1	64.3	ng/m³ Air	69.500	ND	118	80-120			
Matrix Spike Dup (B4I1708-MSD1) Source: 4091631-16 Prepared & Analyzed: 09/17/24										
Antimony	0.663	0.0304	ng/m³ Air	1.0883	0.129	49.1	80-120	0.568	20	SL
Arsenic	2.45	0.00737	ng/m³ Air	2.1765	0.227	102	80-120	2.76	20	
Barium	27.1	0.842	ng/m³ Air	21.765	4.21	105	80-120	2.33	20	
Beryllium	1.08	0.00252	ng/m³ Air	1.0883	0.00909	98.5	80-120	2.77	20	
Cadmium	1.11	0.0583	ng/m³ Air	1.0883	ND	102	80-120	0.220	20	
Chromium	13.3	1.74	ng/m³ Air	10.883	2.44	99.4	80-120	1.01	20	
Cobalt	1.35	0.0343	ng/m³ Air	1.0883	0.315	95.2	80-120	0.695	20	
Copper	40.5	2.07	ng/m³ Air	21.765	18.7	100	80-120	0.388	20	
Lead	11.4	0.168	ng/m³ Air	10.883	0.648	98.8	80-120	1.35	20	
Manganese	15.7	1.49	ng/m³ Air	6.5296	9.11	101	80-120	0.666	20	
Molybdenum	2.18	0.283	ng/m³ Air	1.0883	1.06	103	80-120	1.04	20	
Nickel	3.18	0.513	ng/m³ Air	2.1765	1.12	94.6	80-120	1.18	20	
Selenium	2.29	0.00705	ng/m³ Air	2.1765	0.157	98.2	80-120	0.851	20	
Thallium	0.111	4.64E-4	ng/m³ Air	0.10883	ND	102	80-120	0.870	20	
Vanadium	3.12	0.0416	ng/m³ Air	2.1765	1.03	96.0	80-120	1.37	20	
Zinc	82.0	60.4	ng/m³ Air	65.296	ND	126	80-120	0.276	20	
Matrix Spike Dup (B4I1708-MSD2) Source: 4091631-08 Prepared: 09/17/24 Analyzed: 09/18/24										
Antimony	0.643	0.0323	ng/m³ Air	1.1583	0.0465	51.5	80-120	4.59	20	SL
Arsenic	2.40	0.00785	ng/m³ Air	2.3167	0.133	98.0	80-120	1.45	20	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Matrix Spike Dup (B4I1708-MSD2) Contir		**Source: 4091631-08**			Prepared: 09/17/24		Analyzed: 09/18/24			
Barium	26.9	0.896	ng/m³ Air	23.167	2.54	105	80-120	2.12	20	
Beryllium	1.11	0.00268	ng/m³ Air	1.1583	0.0180	94.7	80-120	3.99	20	
Cadmium	1.17	0.0621	ng/m³ Air	1.1583	ND	101	80-120	2.11	20	
Chromium	14.0	1.85	ng/m³ Air	11.583	2.63	97.9	80-120	2.38	20	
Cobalt	1.37	0.0365	ng/m³ Air	1.1583	0.362	87.5	80-120	3.72	20	
Copper	47.8	2.20	ng/m³ Air	23.167	32.8	64.5	80-120	15.4	20	QM-07
Lead	11.4	0.179	ng/m³ Air	11.583	0.260	96.1	80-120	1.97	20	
Manganese	14.0	1.58	ng/m³ Air	6.9500	7.87	88.6	80-120	7.58	20	
Molybdenum	2.47	0.301	ng/m³ Air	1.1583	1.77	60.4	80-120	12.0	20	QM-07
Nickel	3.27	0.546	ng/m³ Air	2.3167	1.64	70.2	80-120	11.1	20	QM-07
Selenium	2.40	0.00750	ng/m³ Air	2.3167	0.165	96.3	80-120	4.43	20	
Thallium	0.115	4.93E-4	ng/m³ Air	0.11583	5.44E-4	99.1	80-120	1.28	20	
Vanadium	3.13	0.0443	ng/m³ Air	2.3167	0.894	96.5	80-120	2.44	20	
Zinc	78.9	64.3	ng/m³ Air	69.500	ND	114	80-120	3.97	20	
Post Spike (B4I1708-PS1)		**Source: 4091631-16**			Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	0.342	0.0304	ng/m³ Air	0.21765	0.129	97.8	75-125			SL
Arsenic	1.26	0.00737	ng/m³ Air	1.0883	0.227	94.7	75-125			
Barium	6.52	0.842	ng/m³ Air	2.1765	4.21	106	75-125			
Beryllium	0.217	0.00252	ng/m³ Air	0.21765	0.00909	95.5	75-125			
Cadmium	0.119	0.0583	ng/m³ Air	0.10883	ND	109	75-125			
Chromium	3.48	1.74	ng/m³ Air	1.0883	2.44	95.1	75-125			
Cobalt	0.518	0.0343	ng/m³ Air	0.21765	0.315	93.6	75-125			
Copper	29.9	2.07	ng/m³ Air	10.883	18.7	103	75-125			
Lead	22.4	0.168	ng/m³ Air	21.765	0.648	99.9	75-125			
Manganese	11.3	1.49	ng/m³ Air	2.1765	9.11	101	75-125			
Molybdenum	2.15	0.283	ng/m³ Air	1.0883	1.06	100	75-125			
Nickel	3.26	0.513	ng/m³ Air	2.1765	1.12	98.3	75-125			
Selenium	1.20	0.00705	ng/m³ Air	1.0883	0.157	96.1	75-125			
Thallium	0.0545	4.64E-4	ng/m³ Air	5.4413E-2	ND	100	75-125			
Vanadium	2.06	0.0416	ng/m³ Air	1.0883	1.03	94.6	75-125			
Zinc	ND	60.4	ng/m³ Air	21.765	ND		75-125			U
Post Spike (B4I1708-PS2)		**Source: 4091631-08**			Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	0.278	0.0323	ng/m³ Air	0.23167	0.0465	100	75-125			SL
Arsenic	1.25	0.00785	ng/m³ Air	1.1583	0.133	96.0	75-125			
Barium	4.98	0.896	ng/m³ Air	2.3167	2.54	105	75-125			
Beryllium	0.243	0.00268	ng/m³ Air	0.23167	0.0180	97.1	75-125			
Cadmium	0.135	0.0621	ng/m³ Air	0.11583	ND	117	75-125			
Chromium	3.80	1.85	ng/m³ Air	1.1583	2.63	101	75-125			

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Post Spike (B4I1708-PS2) Continued			**Source: 4091631-08**		Prepared: 09/17/24		Analyzed: 09/18/24			
Cobalt	0.589	0.0365	ng/m³ Air	0.23167	0.362	98.4	75-125			
Copper	45.7	2.20	ng/m³ Air	11.583	32.8	111	75-125			
Lead	23.9	0.179	ng/m³ Air	23.167	0.260	102	75-125			
Manganese	10.4	1.58	ng/m³ Air	2.3167	7.87	108	75-125			
Molybdenum	2.95	0.301	ng/m³ Air	1.1583	1.77	102	75-125			
Nickel	3.97	0.546	ng/m³ Air	2.3167	1.64	101	75-125			
Selenium	1.30	0.00750	ng/m³ Air	1.1583	0.165	98.2	75-125			
Thallium	0.0595	4.93E-4	ng/m³ Air	5.7917E-2	5.44E-4	102	75-125			
Vanadium	2.04	0.0443	ng/m³ Air	1.1583	0.894	99.1	75-125			
Zinc	ND	64.3	ng/m³ Air	23.167	ND		75-125			U
Dilution Check (B4I1708-SRL1)			**Source: 4091631-16**		Prepared & Analyzed: 09/17/24					
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.243	0.0369	ng/m³ Air		0.227			6.87	10	
Barium	4.55	4.21	ng/m³ Air		4.21			7.63	10	
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.347	0.172	ng/m³ Air		0.315			9.66	10	
Copper	22.8	10.3	ng/m³ Air		18.7			19.9	10	
Lead	ND	0.842	ng/m³ Air		ND				10	U
Manganese	9.62	7.44	ng/m³ Air		9.11			5.46	10	
Molybdenum	ND	1.41	ng/m³ Air		ND				10	U
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.163	0.0353	ng/m³ Air		0.157			3.95	10	
Thallium	ND	0.00232	ng/m³ Air		ND				10	U
Vanadium	1.02	0.208	ng/m³ Air		1.03			0.608	10	
Zinc	ND	302	ng/m³ Air		ND				10	U
Dilution Check (B4I1708-SRL2)			**Source: 4091631-08**		Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.134	0.0392	ng/m³ Air		0.133			0.388	10	
Barium	ND	4.48	ng/m³ Air		ND				10	U
Beryllium	0.0175	0.0134	ng/m³ Air		0.0180			2.98	10	
Cadmium	ND	0.310	ng/m³ Air		ND				10	U
Chromium	ND	9.26	ng/m³ Air		ND				10	U
Cobalt	0.366	0.183	ng/m³ Air		0.362			1.12	10	
Copper	33.2	11.0	ng/m³ Air		32.8			1.17	10	
Lead	ND	0.896	ng/m³ Air		ND				10	U
Manganese	ND	7.92	ng/m³ Air		ND				10	U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Dilution Check (B4I1708-SRL2) Continued				**Source: 4091631-08**			Prepared: 09/17/24 Analyzed: 09/18/24			
Molybdenum	1.76	1.50	ng/m³ Air		1.77			0.626	10	
Nickel	ND	2.73	ng/m³ Air		ND				10	U
Selenium	0.156	0.0375	ng/m³ Air		0.165			5.28	10	
Thallium	ND	0.00247	ng/m³ Air		ND				10	U
Vanadium	0.871	0.222	ng/m³ Air		0.894			2.57	10	
Zinc	ND	322	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/27/2024 and Shanna Vasser 09/27/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/05/2024 – 09/11/2024
Report No: 4091631

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for cobalt in MFL-FB01-090924-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

September 12 through September 18, 2024
[Report Updated: November 22, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from September 12 through September 18, 2024, at the community locations listed below and shown on **Figure 1.** The monitoring and sampling station located at Lahaina Skate Park (AM-06) was in close proximity to an active highway, resulting in repeated exceedances not directly related to the activities performed by the U.S. Army Corps of Engineers (USACE) and private contractors. Following conversations between Tetra Tech and the Hawaii Department of Health (HDOH), that station was relocated, farther from the highway, to the Lahaina Recreational Center (AM-07) on September 13.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	9/12/2024 - 9/18/2024
Lahaina Intermediate School	AM-03	9/12/2024 - 9/18/2024
Opukea Townhomes	AM-05	9/12/2024 - 9/18/2024
Lahaina Skate Park	AM-06	9/12/2024 - 9/13/2024
Lahaina Recreational Center	AM-07	9/13/2024 - 9/18/2024

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from September 12 through September 18 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the five monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of the relocation of the Lahaina Skate Park sampling location and during instances of equipment faults, as described below:

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) was relocated to Lahaina Recreational Center (AM-07) at the guidance of the HDOH on September 13 to increase the distance and decrease disturbance from a nearby active highway. As a result of the time needed for station teardown and set up, only 9 hours of monitoring was conducted at Lahaina Skate Park (AM-06) and 10 hours of monitoring was conducted at Lahaina Recreational Center (AM-07) on September 13.
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 12, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 23 hours
    - On September 12, air monitoring was conducted at Lahaina Intermediate School (AM-03) for only 23 hours
    - On September 12, air monitoring was conducted at Opukea Townhomes (AM-05) for only 22 hours
    - On September 12, air monitoring was conducted at Lahaina Skate Park (AM-06) for only 23 hours
    - On September 13, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 23 hours
    - On September 13, air monitoring was conducted at Opukea Townhomes (AM-05) for only 22 hours
    - On September 15, air monitoring was conducted at Lahaina Recreational Center (AM-07) for only 22 hours

The equipment fault codes were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. These disruptions resulted in shortened monitoring durations which may have influenced the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 $\mu g/m^3$ TWA screening level on two days, both at the Lahaina Skate Park monitoring location (i.e., on September 12 and September 13, as shown in **Table 1)**.

The air monitoring and sampling station at Lahaina Skate Park (AM-06) exceedances may have been attributable to active traffic from the nearby highway. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. The exceedances on September 12 and 13 are described below:

- On September 12, no USACE debris crew or private contractor activities were observed near that monitoring station. A county crew was observed working at the pool at the aquatic center near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 04:00 through 07:00 and the 20:00 through 21:00 time blocks. Field observations are not available because the timeframe of these readings was outside of normal working hours. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. Wind gust speeds were below 3 mph at the times of these readings. Active traffic from the nearby highway may have attributed to the exceedance on this day.
- On September 13, no USACE debris crew or private contractor activities were observed near this monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 04:00 through 07:00 time blocks. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. Following conversations between Tetra Tech and the Hawaii Department of Health (HDOH), the

station was moved farther from the main road on September 13 and relocated to the Lahaina Recreational Center (AM-07) at 09:00. Active traffic observed from the nearby highway may have attributed to the exceedance. Following the relocation of the air sampling station, no exceedances were recorded during this period.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
September 12 through September 18, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/12/2024	Opukea Townhomes (AM-05)	12*
	WW Pump Station #4 (AM-02)	9.9*
	Lahaina Intermediate School (AM-03)	42*
	Lahaina Skate Park (AM-06)	**153***
9/13/2024	Opukea Townhomes (AM-05)	12*
	WW Pump Station #4 (AM-02)	11*
	Lahaina Intermediate School (AM-03)	29
	Lahaina Skate Park (AM-06)	**193****
	Lahaina Recreation Center (AM-07)	10**
9/14/2024	Opukea Townhomes (AM-05)	9.2
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	27
	Lahaina Recreation Center (AM-07)	5.9
9/15/2024	Opukea Townhomes (AM-05)	6.9
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	31
	Lahaina Recreation Center (AM-07)	4.9*
9/16/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	66
	Lahaina Recreation Center (AM-07)	92
9/17/2024	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	88
	Lahaina Recreation Center (AM-07)	7.4
9/18/2024	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	37
	Lahaina Recreation Center (AM-07)	97

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Exceedance
* Data provided were from a reduced TWA calculation because of an equipment disruption
** Data provided was from a reduced TWA calculation because equipment relocation
Results from Lahaina Intermediate School on 9/14 have been revised from previously submitted report.
Results from Lahaina Recreation Center on 9/14 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 12 through September 18, 2024
[Report Updated: November 22, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000127	0.000647	0.00407	0.00000983	ND	0.00289	0.000352	0.0435	0.00150	0.0103	0.00227	0.00129	0.000240	0.00000113	0.00131	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000119	0.000221	0.00428	0.00000895	ND	0.00253	0.000322	0.0256	0.000595	0.00973	0.00155	0.00111	0.000266	0.000000938	0.00120	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000423	0.000141	0.00246	0.0000150	ND	0.00306	0.000386	0.0423	0.000295	0.0105	0.00236	0.00153	0.000204	0.000000890	0.00102	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000193	0.000275	0.00613	0.00000988	ND	0.00328	0.000378	0.0386	0.00105	0.0112	0.00196	0.00205	0.000233	0.00000127	0.00109	ND
9/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000111	0.000276	0.00374	0.00000795	ND	0.00204	0.000268	0.0394	0.000756	0.00913	0.00210	0.00120	0.000252	0.000000976	0.00123	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000128	0.000267	0.00447	0.0000103	ND	0.00204	0.000333	0.0287	0.000698	0.0110	0.00138	0.00123	0.000296	0.000000898	0.00147	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000750	0.000248	0.00372	0.0000210	ND	0.00348	0.000514	0.0379	0.000427	0.0142	0.00254	0.00346	0.000277	0.00000102	0.00149	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000216	0.000215	0.00585	0.00000841	ND	0.00304	0.000368	0.0476	0.000669	0.0123	0.00235	0.00233	0.000273	0.00000116	0.00117	ND
9/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.000100	0.000227	0.00316	0.00000607	ND	ND	0.000238	0.0336	0.000505	0.00772	0.00204	0.000921	0.000271	0.00000133	0.000888	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000151	0.000369	0.00449	0.00000945	ND	0.00209	0.000314	0.0364	0.000906	0.0106	0.00165	0.00110	0.000336	0.00000163	0.00118	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000104	0.000190	0.00405	0.0000167	ND	0.0126	0.000606	0.0541	0.000491	0.0128	0.00378	0.00864	0.000285	0.00000180	0.00113	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000104	0.000199	0.00292	0.00000628	ND	ND	0.000233	0.0471	0.000424	0.00807	0.00258	0.00100	0.000265	0.00000138	0.000831	ND
9/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000665	0.000118	0.00215	0.00000423	ND	ND	0.000153	0.0294	0.000229	0.00441	0.00198	0.000712	0.000102	ND	0.000523	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000121	0.000199	0.00389	0.00000754	ND	ND	0.000264	0.0337	0.000429	0.00815	0.00182	0.000978	0.000157	0.000000607	0.000899	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000447	0.000128	0.00275	0.0000217	ND	0.00247	0.000364	0.0354	0.000243	0.00848	0.00258	0.00135	0.000132	0.000000596	0.000996	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000693	0.000104	0.00169	ND	ND	ND	0.0000984	0.0167	ND	0.00293	0.00110	0.000744	0.0000707	ND	0.000329	ND
9/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000908	0.000240	0.00392	0.00000814	ND	0.00235	0.000361	0.0512	0.000504	0.00962	0.00261	0.00140	0.000189	0.000000722	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000110	0.000284	0.00493	0.0000118	ND	0.00287	0.000511	0.0356	0.000671	0.0142	0.00171	0.00162	0.000203	0.000000913	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000514	0.000203	0.00289	0.0000175	ND	0.00262	0.000405	0.0538	0.000366	0.0115	0.00414	0.00216	0.000185	0.00000108	0.000996	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000102	0.000170	0.00253	0.00000540	ND	0.00402	0.000295	0.0373	0.000344	0.00871	0.00222	0.00238	0.000185	0.000000919	0.000709	ND
9/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000658	0.000193	0.00285	0.00000500	ND	ND	0.000239	0.0476	0.000376	0.00759	0.00231	0.000955	0.000209	0.000000676	0.000855	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000999	0.000282	0.00363	0.00000998	ND	ND	0.000317	0.0465	0.000948	0.0103	0.00157	0.00105	0.000248	0.000000844	0.00113	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000668	0.000272	0.00345	0.0000150	ND	0.00412	0.000635	0.0770	0.000435	0.0174	0.00390	0.00635	0.000240	0.00000129	0.00125	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000119	0.000778	0.00545	0.0000339	ND	0.00787	0.00106	0.0244	0.000619	0.0341	0.00138	0.00448	0.000284	0.00000183	0.00285	ND
9/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000161	0.000608	0.00868	0.0000174	ND	0.00367	0.000728	0.0393	0.00326	0.0214	0.00217	0.00222	0.000253	0.00000133	0.00249	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000907	0.000319	0.00446	0.00000999	ND	0.00214	0.000374	0.0472	0.00122	0.0120	0.00191	0.00127	0.000232	0.000000931	0.00156	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000638	0.000197	0.00345	0.0000229	ND	0.00303	0.000536	0.0565	0.000294	0.0136	0.00300	0.00260	0.000200	0.000000987	0.00135	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000111	0.000238	0.00299	0.00000735	ND	0.00240	0.000307	0.0291	0.000283	0.00960	0.00172	0.00154	0.000173	0.000000976	0.00102	ND
95% Upper Confidence Limit[2]		NA	0.000120	0.000320	0.00439	0.0000150	NA	0.00419	0.000470	0.0452	0.000850	0.0135	0.00250	0.00253	0.000250	0.00000120	0.00141	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 12 through September 18, 2024
[Report Updated: November 22, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
9/12/2024	AM-02	WW Pump Station #4	1.1	S	82	71	760.8
9/12/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	67	751.4
9/12/2024	AM-05	Opukea Townhomes	1.3	SSE	84	67	760.1
9/12/2024	AM-06	Lahaina Skate Park	1.4	SSW	83	69	760.6
9/13/2024	AM-02	WW Pump Station #4	1.1	SSE	82	69	761.2
9/13/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	66	751.8
9/13/2024	AM-05	Opukea Townhomes	1.3	SSE	84	66	760.6
9/13/2024	AM-06	Lahaina Skate Park	0.8	ESE	76	76	760.9
9/13/2024	AM-07	Lahaina Recreational Center	1.4	S	83	66	760.0
9/14/2024	AM-02	WW Pump Station #4	1.1	S	82	62	760.6
9/14/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	60	751.3
9/14/2024	AM-05	Opukea Townhomes	1.2	SSE	85	59	760.1
9/14/2024	AM-07	Lahaina Recreational Center	1.4	S	81	63	759.9
9/15/2024	AM-02	WW Pump Station #4	0.9	S	82	64	761.0
9/15/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	60	751.6
9/15/2024	AM-05	Opukea Townhomes	1.2	SSE	85	60	760.4
9/15/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	65	760.3
9/16/2024	AM-02	WW Pump Station #4	1.0	S	83	72	762.2
9/16/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	67	752.8
9/16/2024	AM-05	Opukea Townhomes	1.3	SSE	85	68	761.6
9/16/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	75	761.5
9/17/2024	AM-02	WW Pump Station #4	1.0	SSE	83	68	763.0
9/17/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	65	753.6
9/17/2024	AM-05	Opukea Townhomes	1.2	SSE	85	65	762.4
9/17/2024	AM-07	Lahaina Recreational Center	1.3	SSE	81	69	762.3
9/18/2024	AM-02	WW Pump Station #4	0.9	S	82	68	762.6
9/18/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	66	753.2
9/18/2024	AM-05	Opukea Townhomes	1.1	SSE	84	65	762.1
9/18/2024	AM-07	Lahaina Recreational Center	1.2	SSE	80	72	761.9

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091224-AB**		**Sample Description:**	**DL275443**
EMSL Sample Number:	042419341-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0001 **Customer Sample:** MFL-AM05-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H7	None Detected									
B1	E3	None Detected									
B1	C7	None Detected									
B2	I4	None Detected									
B2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091224-AB**		**Sample Description:**	**DL275442**
EMSL Sample Number:	042419341-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0002 **Customer Sample:** MFL-AM02-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I5	None Detected									
B5	E8	None Detected									
B5	C5	None Detected									
B6	B6	None Detected									
B6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091224-AB** **Sample Description: DL275435**

EMSL Sample Number:	042419341-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0003 **Customer Sample:** MFL-AM03-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	C9	None Detected									
C2	G5	None Detected									
C2	I3	None Detected									
C3	H7	None Detected									
C3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091224-AB**		**Sample Description:**	**DL275439**
EMSL Sample Number:	042419341-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0004 **Customer Sample:** MFL-AM06-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I1	None Detected									
C5	F3	None Detected									
C5	B4	None Detected									
C6	I3	None Detected									
C6	E1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091224-AB** **Sample Description:** **DL275431**

EMSL Sample Number:	042419341-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0005 **Customer Sample:** MFL-FB01-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J3	None Detected									
D1	H5	None Detected									
D1	F2	None Detected									
D1	D4	None Detected									
D1	B5	None Detected									
D2	J1	None Detected									
D2	H4	None Detected									
D2	F8	None Detected									
D2	D10	None Detected									
D2	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091324-AB**		**Sample Description:**	**DL275440**
EMSL Sample Number:	042419341-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0006 **Customer Sample:** MFL-AM05-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	H5	None Detected									
D6	E3	None Detected									
D6	C7	None Detected									
D7	A5	None Detected									
D7	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091324-AB**		**Sample Description:**	**DL275399**
EMSL Sample Number:	042419341-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0007 **Customer Sample:** MFL-AM02-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	C5	None Detected									
E3	E4	None Detected									
E3	H6	None Detected									
E4	J4	None Detected									
E4	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091324-AB**		**Sample Description:**	**DL275437**
EMSL Sample Number:	042419341-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0008 **Customer Sample:** MFL-AM03-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	G6	None Detected									
E5	D6	None Detected									
E6	D7	None Detected									
E6	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091324-AB**		**Sample Description:**	**DL275430**
EMSL Sample Number:	042419341-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5487.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0009 **Customer Sample:** MFL-AM06-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J2	None Detected									
F2	G5	None Detected									
F2	C4	None Detected									
F3	B4	None Detected									
F3	F7	None Detected									
F3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091324-AB** **Sample Description:** **DL275441**

EMSL Sample Number:	042419341-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0010 **Customer Sample:** MFL-FB01-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J4	None Detected									
F5	H4	None Detected									
F5	F7	None Detected									
F5	D4	None Detected									
F5	A2	None Detected									
F6	A1	None Detected									
F6	B5	None Detected									
F6	E4	None Detected									
F6	J3	None Detected									
F6	J8	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091424-AB**		**Sample Description:**	**DL275438**
EMSL Sample Number:	042419341-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID:

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0011 **Customer Sample:** MFL-AM05-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	C7	None Detected									
G1	F10	None Detected									
G1	I7	None Detected									
G2	B10	None Detected									
G2	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091424-AB** **Sample Description:** **DL275461**

EMSL Sample Number:	042419341-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0012 **Customer Sample:** MFL-AM02-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	H5	None Detected									
G5	F9	None Detected									
G5	C10	None Detected									
G6	H9	None Detected									
G6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091424-AB**	**Sample Description:**	**DL275434**
EMSL Sample Number:	042419341-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0013 **Customer Sample:** MFL-AM03-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B10	None Detected									
H1	E8	None Detected									
H1	H6	None Detected									
H2	F7	None Detected									
H2	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091424-AB**		**Sample Description:**	**DL275402**
EMSL Sample Number:	042419341-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0014 **Customer Sample:** MFL-AM07-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	I6	None Detected									
H5	D2	None Detected									
H5	B6	None Detected									
H6	I4	None Detected									
H6	F2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091424-AB**		**Sample Description:**	**DL275407**
EMSL Sample Number:	042419341-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0015 **Customer Sample:** MFL-FB01-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	H7	None Detected									
I2	G4	None Detected									
I2	C8	None Detected									
I3	A7	None Detected									
I3	F2	None Detected									
I4	J2	None Detected									
I4	H2	None Detected									
I4	F7	None Detected									
I4	D3	None Detected									
I4	B10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091524-AB**	**Sample Description:**	**DL275446**
EMSL Sample Number:	042419341-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7162.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0016 **Customer Sample:** MFL-AM05-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I6	B1	None Detected									
I6	J8	None Detected									
I8	B1	None Detected									
I8	D2	None Detected									
I8	G2	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091524-AB**		**Sample Description:**	**DL275400**
EMSL Sample Number:	042419341-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0017 **Customer Sample:** MFL-AM02-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I2	None Detected									
J1	E7	None Detected									
J1	B5	None Detected									
J2	H2	None Detected									
J2	B1	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091524-AB**		**Sample Description:**	**DL275447**
EMSL Sample Number:	042419341-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7246.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0018 **Customer Sample:** MFL-AM03-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J5	None Detected									
J5	G6	None Detected									
J5	B2	None Detected									
J6	G2	None Detected									
J6	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/23/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091524-AB**		**Sample Description:**	**DL275412**
EMSL Sample Number:	042419341-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0019 **Customer Sample:** MFL-AM07-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K3	A2	None Detected									
K3	C6	None Detected									
K3	F4	None Detected									
K4	A6	None Detected									
K4	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091524-AB** **Sample Description:** **DL275408**

EMSL Sample Number:	042419341-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0020 **Customer Sample:** MFL-FB01-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	C6	None Detected									
K5	E9	None Detected									
K5	G7	None Detected									
K5	I6	None Detected									
K6	J2	None Detected									
K6	H5	None Detected									
K6	F4	None Detected									
K6	C5	None Detected									
K6	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042419341-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419341
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A3	A7	None Detected									
A3	C6	None Detected									
A3	E7	None Detected									
A3	G3	None Detected									
A3	I5	None Detected									
A4	A4	None Detected									
A4	C7	None Detected									
A4	E2	None Detected									
A4	G3	None Detected									
A4	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042419341

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042419341

RECEIVED EMSL CINNAMINSON, NJ
24 SEP 18 PM12:14

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karyga Saldana
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)
Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-091224-AB	DL275443	7,221.207	09/12/24 1100
MFL-AM02-091224-AB	DL275442	7,128.813	09/12/24 1117
MFL-AM03-091224-AB	DL275435	7,173.001	09/12/24 1302
MFL-AM06-091224-AB	DL275439	7,138.491	09/12/24 1323
MFL-FB01-091224-AB	DL275431	0	09/12/24 1200
MFL-AM02-091324-AB (ERS)	DL275440	7,122.719	09/13/24 1105
MFL-AM02-091324-AB	DL275399	7,178.342	09/13/24 1120
MFL-AM03-091324-AB	DL275437	7,207.693	09/13/24 1308

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: FED EX
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
	09/16/24 1100	FX	9/18/24 9:40
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20 BD

OrderID: 042419341

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419341

RECEIVED EMSL CINNAMINSON, NJ 13 SEP 18 PM 12 24

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* Note: Lower volume collected. Contact Chelsea ~~Sabet~~ before opening more grids.

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
*	MFL-AM06-091324-AB	DL275430	5,486.979	09/13/24 0758
	MFL-FB01-091324-AB	DL275441	0	09/13/24 1200
	MFL-AM05-091424-AB	DL275438	7,129.430	09/14/24 1056
	MFL-AM02-091424-AB	DL275461	7,168.881	09/14/24 1114
	MFL-AM03-091424-AB	DL275434	7,116.735	09/14/24 1255
	MFL-AM07-091424-AB	DL275402	7,198.605	09/14/24 1321
	MFL-FB01-091424-AB	DL275407	0	09/14/24 1200
	MFL-AM05-091524-AB	DL275446	7,162.635	09/15/24 1100
	MFL-AM02-091524-AB	DL275400	7,221.500	09/15/24 1112
	MFL-AM03-091524-AB	DL275447	7,246.771	09/15/24 1259
	MFL-AM07-091524-AB	DL275412	7,216.187	09/15/24 1321
	MFL-FB01-091524-AB	DL275408	0	09/15/24 1200

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/16/24 1100	Received by: FX	Date/Time: 9/18/24 9:40
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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20 BD

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/24/2024 and Shanna Vasser 09/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/12/2024 – 09/15/2024
Report No: 42419341

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091624-AB**		**Sample Description:**	**DL275406**
EMSL Sample Number:	042419704-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7224.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0001 **Customer Sample:** MFL-AM05-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B7	None Detected									
A5	E10	None Detected									
A5	I5	None Detected									
A6	C5	None Detected									
A6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091624-AB**		**Sample Description:**	**DL275464**
EMSL Sample Number:	042419704-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0002 **Customer Sample:** MFL-AM02-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I1	None Detected									
B2	E4	None Detected									
B2	C8	None Detected									
B3	A3	None Detected									
B3	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091624-AB**		**Sample Description:**	**DL275473**
EMSL Sample Number:	042419704-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7074.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0003 **Customer Sample:** MFL-AM03-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I3	None Detected									
B5	F4	None Detected									
B5	C7	None Detected									
B6	H4	None Detected									
B6	E1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091624-AB**		**Sample Description:**	**DL275462**
EMSL Sample Number:	042419704-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0004 **Customer Sample:** MFL-AM07-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J2	None Detected									
C2	H6	None Detected									
C2	F8	None Detected									
C3	A6	None Detected									
C3	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091624-AB** **Sample Description:** **DL275448**

EMSL Sample Number:	042419704-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0005 **Customer Sample:** MFL-FB01-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J1	None Detected									
C5	H4	None Detected									
C5	F1	None Detected									
C5	D3	None Detected									
C5	B5	None Detected									
C6	A10	None Detected									
C6	C9	None Detected									
C6	E10	None Detected									
C6	G7	None Detected									
C6	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091724-AB**		**Sample Description:**	**DL275454**
EMSL Sample Number:	042419704-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0006 **Customer Sample:** MFL-AM05-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A9	None Detected									
D2	F10	None Detected									
D2	J7	None Detected									
D3	E10	None Detected									
D3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/26/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091724-AB** **Sample Description: DL275459**

EMSL Sample Number:	042419704-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0007 **Customer Sample:** MFL-AM02-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J5	None Detected									
D5	H2	None Detected									
D5	D2	None Detected									
D6	C9	None Detected									
D6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091724-AB** **Sample Description: DL275451**

EMSL Sample Number:	042419704-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7184.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0008 **Customer Sample:** MFL-AM03-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B7	None Detected									
E2	D6	None Detected									
E2	G5	None Detected									
E3	B7	None Detected									
E3	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-091724-AB** **Sample Description:** **DL275456**

EMSL Sample Number:	042419704-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0009 **Customer Sample:** MFL-AM07-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A6	None Detected									
E5	E3	None Detected									
E5	G6	None Detected									
E6	I6	None Detected									
E6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091724-AB** **Sample Description: DL275458**

EMSL Sample Number:	042419704-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0010 **Customer Sample:** MFL-FB01-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	C10	None Detected									
F2	E10	None Detected									
F2	G8	None Detected									
F2	I9	None Detected									
F3	J1	None Detected									
F3	H3	None Detected									
F3	E1	None Detected									
F3	C2	None Detected									
F3	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091824-AB**		**Sample Description:**	**DL275433**
EMSL Sample Number:	042419704-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0011 **Customer Sample:** MFL-AM05-091824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A4	None Detected									
F5	F2	None Detected									
F5	H6	None Detected									
F6	A9	None Detected									
F6	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091824-AB** **Sample Description:** **DL275460**

EMSL Sample Number:	042419704-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7020.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0012 **Customer Sample:** MFL-AM02-091824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J3	None Detected									
G2	H7	None Detected									
G2	B4	None Detected									
G3	H2	None Detected									
G3	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091824-AB**		**Sample Description:**	**DL274896**
EMSL Sample Number:	042419704-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7210.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0013 **Customer Sample:** MFL-AM03-091824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B7	None Detected									
G5	E4	None Detected									
G5	G9	None Detected									
G6	A9	None Detected									
G6	H8	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-091824-AB** **Sample Description:** **DL274909**

EMSL Sample Number:	042419704-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7258.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0014 **Customer Sample:** MFL-AM07-091824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A8	None Detected									
H2	D4	None Detected									
H2	G7	None Detected									
H3	H2	None Detected									
H3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419704
Customer ID:	TTDC42
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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091824-AB** **Sample Description: DL274899**

EMSL Sample Number:	042419704-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0015 **Customer Sample:** MFL-FB01-091824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J1	None Detected									
H5	H4	None Detected									
H5	F7	None Detected									
H5	D4	None Detected									
H5	B1	None Detected									
H6	A4	None Detected									
H6	C9	None Detected									
H6	E8	None Detected									
H6	G7	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042419704-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419704
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A7	None Detected									
A2	C8	None Detected									
A2	E9	None Detected									
A2	G5	None Detected									
A2	I6	None Detected									
A3	A7	None Detected									
A3	C5	None Detected									
A3	E3	None Detected									
A3	G4	None Detected									
A3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042419704

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419704 RECEIVED EMSL CINNAMINSON, NJ 24 SEP 23 AM 9:19

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA JABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.jaber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES - LAHAINA
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	E. Klayton Saldaña
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-091624-AIR	DL275406	7,224.068	09/16/24 1102
MFL-AM02-091624-AIR	DL275464	7,163.136	09/16/24 1114
MFL-AM03-091624-AIR	DL275473	7,074.885	09/16/24 1305
MFL-AM07-091624-AIR	DL275462	7,215.087	09/16/24 1327
MFL-FB01-091624-AIR	DL275448	0	09/16/24 1200
MFL-AM05-091724-AIR	DL275454	7,222.786	09/17/24 1100
MFL-AM02-091724-AIR	DL275459	7,175.717	09/17/24 1116
MFL-AM03-091724-AIR	DL275451	7,184.627	09/17/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	FEDEX	Sample Condition Upon Receipt:	
Relinquished by:		Received by: FX	Date/Time: 9/23/24 8:00 8:50
Relinquished by:	Date/Time: 09/17/24 1100	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

15 9/24

OrderID: 042419704

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419704

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 23 AM 9:19

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-091724-AB	DL275456	7,176.841	09/17/24 1325
MFL-FB01-091724-AB	DL275458	0	09/17/24 1200
MFL-AM05-091824-AB	DL275433	7,160.858	09/18/24 1101
MFL-AM02-091824-AB	DL275460	7,020.000	09/18/24 1119
MFL-AM03-091824-AB	DL274896	7,210.368	09/18/24 1305
MFL-AM07-091824-AB	DL274909	7,258.461	09/18/24 1329
MFL-FB01-091824-AB	DL274899	0	09/18/24 1200

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/19/24 1400	Received by: FX	Date/Time: 9/23/24 8500
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/30/2024 and Shanna Vasser 10/01/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/16/2024 – 09/18/2024
Report No: 42419704

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 01, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 09/23/24 10:07.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-091224-HM	4092329-01	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM02-091224-HM	4092329-02	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM03-091224-HM	4092329-03	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM06-091224-HM	4092329-04	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM05-091324-HM	4092329-05	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM02-091324-HM	4092329-06	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM03-091324-HM	4092329-07	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM06-091324-HM	4092329-08	Air	09/13/24 23:59	09/23/24 10:07
MFL-FB01-091324-HM	4092329-09	Air	09/13/24 00:00	09/23/24 10:07
MFL-AM05-091424-HM	4092329-10	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM02-091424-HM	4092329-11	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM03-091424-HM	4092329-12	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM07-091424-HM	4092329-13	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM05-091524-HM	4092329-14	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM02-091524-HM	4092329-15	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM03-091524-HM	4092329-16	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM07-091524-HM	4092329-17	Air	09/15/24 23:59	09/23/24 10:07
MFL-FB01-091524-HM	4092329-18	Air	09/15/24 00:00	09/23/24 10:07
MFL-AM05-091624-HM	4092329-19	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM02-091624-HM	4092329-20	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM03-091624-HM	4092329-21	Air	09/16/24 23:59	09/23/24 10:07

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-091624-HM	4092329-22	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM05-091724-HM	4092329-23	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM02-091724-HM	4092329-24	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM03-091724-HM	4092329-25	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM07-091724-HM	4092329-26	Air	09/17/24 23:59	09/23/24 10:07
MFL-FB01-091724-HM	4092329-27	Air	09/17/24 00:00	09/23/24 10:07
MFL-AM05-091824-HM	4092329-28	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM02-091824-HM	4092329-29	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM03-091824-HM	4092329-30	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM07-091824-HM	4092329-31	Air	09/18/24 23:59	09/23/24 10:07
MFL-LB01-091324-HM	4092329-32	Air	09/13/24 00:00	09/23/24 10:07

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091224-HM
Matrix: Air
Lab ID: 4092329-01
Sample Volume: 1946.203 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 01:39

Comments: Q9537591 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.127**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.647**		**0.00783**
Barium	**7440-39-3**	**4.07**		**0.895**
Beryllium	**7440-41-7**	**0.00983**		**0.00268**
Cadmium	7440-43-9	0.0486	U	0.0619
Chromium	**7440-47-3**	**2.89**		**1.85**
Cobalt	**7440-48-4**	**0.352**		**0.0364**
Copper	**7440-50-8**	**43.5**		**2.20**
Lead	**7439-92-1**	**1.50**		**0.179**
Manganese	**7439-96-5**	**10.3**		**1.58**
Molybdenum	**7439-98-7**	**2.27**		**0.300**
Nickel	**7440-02-0**	**1.29**		**0.545**
Selenium	**7782-49-2**	**0.240**		**0.00749**
Thallium	**7440-28-0**	**0.00113**		**4.92E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0442**
Zinc	7440-66-6	19.2	U	64.2

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091224-HM
Matrix: Air
Lab ID: 4092329-02
Sample Volume: 2043.692 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 01:56

Comments: Q9537589 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.221**		**0.00746**
Barium	**7440-39-3**	**4.28**		**0.852**
Beryllium	**7440-41-7**	**0.00895**		**0.00255**
Cadmium	7440-43-9	0.0148	U	0.0590
Chromium	**7440-47-3**	**2.53**		**1.76**
Cobalt	**7440-48-4**	**0.322**		**0.0347**
Copper	**7440-50-8**	**25.6**		**2.09**
Lead	**7439-92-1**	**0.595**		**0.170**
Manganese	**7439-96-5**	**9.73**		**1.50**
Molybdenum	**7439-98-7**	**1.55**		**0.286**
Nickel	**7440-02-0**	**1.11**		**0.519**
Selenium	**7782-49-2**	**0.266**		**0.00713**
Thallium	**7440-28-0**	**9.38E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0421**
Zinc	7440-66-6	13.7	U	61.1

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091224-HM
Matrix: Air
Lab ID: 4092329-03
Sample Volume: 1993.082 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:16

Comments: Q9537587 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0423**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.141**		**0.00765**
Barium	**7440-39-3**	**2.46**		**0.873**
Beryllium	**7440-41-7**	**0.0150**		**0.00261**
Cadmium	7440-43-9	0.0183	U	0.0605
Chromium	**7440-47-3**	**3.06**		**1.80**
Cobalt	**7440-48-4**	**0.386**		**0.0356**
Copper	**7440-50-8**	**42.3**		**2.15**
Lead	**7439-92-1**	**0.295**		**0.175**
Manganese	**7439-96-5**	**10.5**		**1.54**
Molybdenum	**7439-98-7**	**2.36**		**0.293**
Nickel	**7440-02-0**	**1.53**		**0.532**
Selenium	**7782-49-2**	**0.204**		**0.00731**
Thallium	**7440-28-0**	**8.90E-4**		**4.81E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0432**
Zinc	7440-66-6	10.8	U	62.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091224-HM
Matrix: Air
Lab ID: 4092329-04
Sample Volume: 1593.756 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/24/24 19:02

Comments: Q9537586 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.193**	SL	**0.0394**
Arsenic	**7440-38-2**	**0.275**		**0.00957**
Barium	**7440-39-3**	**6.13**		**1.09**
Beryllium	**7440-41-7**	**0.00988**		**0.00327**
Cadmium	7440-43-9	0.0319	U	0.0756
Chromium	**7440-47-3**	**3.28**		**2.26**
Cobalt	**7440-48-4**	**0.378**		**0.0445**
Copper	**7440-50-8**	**38.6**	QM-07	**2.68**
Lead	**7439-92-1**	**1.05**		**0.218**
Manganese	**7439-96-5**	**11.2**	QM-07	**1.93**
Molybdenum	**7439-98-7**	**1.96**	QM-07	**0.366**
Nickel	**7440-02-0**	**2.05**		**0.666**
Selenium	**7782-49-2**	**0.233**		**0.00915**
Thallium	**7440-28-0**	**0.00127**		**6.01E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0540**
Zinc	7440-66-6	22.5	U	78.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091324-HM
Matrix: Air
Lab ID: 4092329-05
Sample Volume: 1822.304 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:32

Comments: Q8518525 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.276**		**0.00837**
Barium	**7440-39-3**	**3.74**		**0.955**
Beryllium	**7440-41-7**	**0.00795**		**0.00286**
Cadmium	7440-43-9	0.0495	U	0.0662
Chromium	**7440-47-3**	**2.04**		**1.97**
Cobalt	**7440-48-4**	**0.268**		**0.0389**
Copper	**7440-50-8**	**39.4**		**2.35**
Lead	**7439-92-1**	**0.756**		**0.191**
Manganese	**7439-96-5**	**9.13**		**1.69**
Molybdenum	**7439-98-7**	**2.10**		**0.321**
Nickel	**7440-02-0**	**1.20**		**0.582**
Selenium	**7782-49-2**	**0.252**		**0.00800**
Thallium	**7440-28-0**	**9.76E-4**		**5.26E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0472**
Zinc	7440-66-6	11.8	U	68.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091324-HM
Matrix: Air
Lab ID: 4092329-06
Sample Volume: 2017.914 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:49

Comments: Q8518524 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.267**		**0.00755**
Barium	**7440-39-3**	**4.47**		**0.863**
Beryllium	**7440-41-7**	**0.0103**		**0.00258**
Cadmium	7440-43-9	0.0117	U	0.0597
Chromium	**7440-47-3**	**2.04**		**1.78**
Cobalt	**7440-48-4**	**0.333**		**0.0352**
Copper	**7440-50-8**	**28.7**		**2.12**
Lead	**7439-92-1**	**0.698**		**0.173**
Manganese	**7439-96-5**	**11.0**		**1.52**
Molybdenum	**7439-98-7**	**1.38**		**0.289**
Nickel	**7440-02-0**	**1.23**		**0.526**
Selenium	**7782-49-2**	**0.296**		**0.00722**
Thallium	**7440-28-0**	**8.98E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0427**
Zinc	7440-66-6	11.7	U	61.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091324-HM
Matrix: Air
Lab ID: 4092329-07
Sample Volume: 1906.296 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:04

Comments: Q8518523 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0750**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.248**		**0.00800**
Barium	**7440-39-3**	**3.72**		**0.913**
Beryllium	**7440-41-7**	**0.0210**		**0.00273**
Cadmium	7440-43-9	0.0127	U	0.0632
Chromium	**7440-47-3**	**3.48**		**1.89**
Cobalt	**7440-48-4**	**0.514**		**0.0372**
Copper	**7440-50-8**	**37.9**		**2.24**
Lead	**7439-92-1**	**0.427**		**0.183**
Manganese	**7439-96-5**	**14.2**		**1.61**
Molybdenum	**7439-98-7**	**2.54**		**0.306**
Nickel	**7440-02-0**	**3.46**		**0.556**
Selenium	**7782-49-2**	**0.277**		**0.00765**
Thallium	**7440-28-0**	**0.00102**		**5.03E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0451**
Zinc	7440-66-6	9.50	U	65.5

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091324-HM
Matrix: Air
Lab ID: 4092329-08
Sample Volume: 1180.934 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:19

Comments: Q8518520 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.216**	SL	**0.0532**
Arsenic	**7440-38-2**	**0.215**		**0.0129**
Barium	**7440-39-3**	**5.85**		**1.47**
Beryllium	**7440-41-7**	**0.00841**		**0.00441**
Cadmium	7440-43-9	0.0226	U	0.102
Chromium	**7440-47-3**	**3.04**		**3.04**
Cobalt	**7440-48-4**	**0.368**		**0.0601**
Copper	**7440-50-8**	**47.6**		**3.62**
Lead	**7439-92-1**	**0.669**		**0.295**
Manganese	**7439-96-5**	**12.3**		**2.60**
Molybdenum	**7439-98-7**	**2.35**		**0.495**
Nickel	**7440-02-0**	**2.33**		**0.898**
Selenium	**7782-49-2**	**0.273**		**0.0123**
Thallium	**7440-28-0**	**0.00116**		**8.11E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0729**
Zinc	7440-66-6	18.6	U	106

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091324-HM
Matrix: Air
Lab ID: 4092329-09
Sample Volume: 1822.304 m³
Filter ID:
Sampled: 09/13/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:35

Comments: Q8518513 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0191	SL, U	0.0345
Arsenic	7440-38-2	0.00343	U	0.00837
Barium	7440-39-3	0.814	U	0.955
Beryllium	7440-41-7	2.37E-4	U	0.00286
Cadmium	7440-43-9	0.00104	U	0.0662
Chromium	7440-47-3	0.886	U	1.97
Cobalt	7440-48-4	0.0103	U	0.0389
Copper	7440-50-8	0.309	U	2.35
Lead	7439-92-1	0.0265	U	0.191
Manganese	7439-96-5	0.169	U	1.69
Molybdenum	7439-98-7	0.145	U	0.321
Nickel	7440-02-0	0.388	U	0.582
Selenium	7782-49-2	0.00243	U	0.00800
Thallium	7440-28-0	1.25E-4	U	5.26E-4
Vanadium	7440-62-2	0.00803	U	0.0472
Zinc	7440-66-6	3.52	U	68.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091424-HM
Matrix: Air
Lab ID: 4092329-10
Sample Volume: 2009.227 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:49

Comments: Q8518519 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.227**		**0.00759**
Barium	**7440-39-3**	**3.16**		**0.866**
Beryllium	**7440-41-7**	**0.00607**		**0.00259**
Cadmium	7440-43-9	0.0196	U	0.0600
Chromium	7440-47-3	1.59	U	1.79
Cobalt	**7440-48-4**	**0.238**		**0.0353**
Copper	**7440-50-8**	**33.6**		**2.13**
Lead	**7439-92-1**	**0.505**		**0.173**
Manganese	**7439-96-5**	**7.72**		**1.53**
Molybdenum	**7439-98-7**	**2.04**		**0.291**
Nickel	**7440-02-0**	**0.921**		**0.528**
Selenium	**7782-49-2**	**0.271**		**0.00726**
Thallium	**7440-28-0**	**0.00133**		**4.77E-4**
Vanadium	**7440-62-2**	**0.888**		**0.0428**
Zinc	7440-66-6	10.3	U	62.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091424-HM
Matrix: Air
Lab ID: 4092329-11
Sample Volume: 1997.726 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:13

Comments: Q8518516 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.369**		**0.00763**
Barium	**7440-39-3**	**4.49**		**0.871**
Beryllium	**7440-41-7**	**0.00945**		**0.00261**
Cadmium	7440-43-9	0.0163	U	0.0603
Chromium	**7440-47-3**	**2.09**		**1.80**
Cobalt	**7440-48-4**	**0.314**		**0.0355**
Copper	**7440-50-8**	**36.4**		**2.14**
Lead	**7439-92-1**	**0.906**		**0.174**
Manganese	**7439-96-5**	**10.6**		**1.54**
Molybdenum	**7439-98-7**	**1.65**		**0.292**
Nickel	**7440-02-0**	**1.10**		**0.531**
Selenium	**7782-49-2**	**0.336**		**0.00730**
Thallium	**7440-28-0**	**0.00163**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0431**
Zinc	7440-66-6	11.0	U	62.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091424-HM
Matrix: Air
Lab ID: 4092329-12
Sample Volume: 1872.156 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:28

Comments: Q8518512 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.190**		**0.00814**
Barium	**7440-39-3**	**4.05**		**0.930**
Beryllium	**7440-41-7**	**0.0167**		**0.00278**
Cadmium	7440-43-9	0.0263	U	0.0644
Chromium	**7440-47-3**	**12.6**		**1.92**
Cobalt	**7440-48-4**	**0.606**		**0.0379**
Copper	**7440-50-8**	**54.1**		**2.29**
Lead	**7439-92-1**	**0.491**		**0.186**
Manganese	**7439-96-5**	**12.8**		**1.64**
Molybdenum	**7439-98-7**	**3.78**		**0.312**
Nickel	**7440-02-0**	**8.64**		**0.567**
Selenium	**7782-49-2**	**0.285**		**0.00779**
Thallium	**7440-28-0**	**0.00180**	QB-04	**5.12E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0460**
Zinc	7440-66-6	24.4	U	66.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091424-HM
Matrix: Air
Lab ID: 4092329-13
Sample Volume: 1724.725 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:45

Comments: Q8518511 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0364**
Arsenic	**7440-38-2**	**0.199**		**0.00884**
Barium	**7440-39-3**	**2.92**		**1.01**
Beryllium	**7440-41-7**	**0.00628**		**0.00302**
Cadmium	7440-43-9	0.0230	U	0.0699
Chromium	7440-47-3	1.85	U	2.08
Cobalt	**7440-48-4**	**0.233**		**0.0411**
Copper	**7440-50-8**	**47.1**		**2.48**
Lead	**7439-92-1**	**0.424**		**0.202**
Manganese	**7439-96-5**	**8.07**		**1.78**
Molybdenum	**7439-98-7**	**2.58**		**0.339**
Nickel	**7440-02-0**	**1.00**		**0.615**
Selenium	**7782-49-2**	**0.265**		**0.00845**
Thallium	**7440-28-0**	**0.00138**	QB-04	**5.56E-4**
Vanadium	**7440-62-2**	**0.831**		**0.0499**
Zinc	7440-66-6	10.0	U	72.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091524-HM
Matrix: Air
Lab ID: 4092329-14
Sample Volume: 2097.448 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:00

Comments: Q8518509 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0665**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.118**		**0.00727**
Barium	**7440-39-3**	**2.15**		**0.830**
Beryllium	**7440-41-7**	**0.00423**		**0.00248**
Cadmium	7440-43-9	0.0187	U	0.0575
Chromium	7440-47-3	1.41	U	1.71
Cobalt	**7440-48-4**	**0.153**		**0.0338**
Copper	**7440-50-8**	**29.4**		**2.04**
Lead	**7439-92-1**	**0.229**		**0.166**
Manganese	**7439-96-5**	**4.41**		**1.47**
Molybdenum	**7439-98-7**	**1.98**		**0.278**
Nickel	**7440-02-0**	**0.712**		**0.506**
Selenium	**7782-49-2**	**0.102**		**0.00695**
Thallium	7440-28-0	4.05E-4	QB-04, U	4.57E-4
Vanadium	**7440-62-2**	**0.523**		**0.0410**
Zinc	7440-66-6	6.79	U	59.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091524-HM
Matrix: Air
Lab ID: 4092329-15
Sample Volume: 1943.624 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:16

Comments: Q8518508 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.199**		**0.00784**
Barium	**7440-39-3**	**3.89**		**0.896**
Beryllium	**7440-41-7**	**0.00754**		**0.00268**
Cadmium	7440-43-9	0.0158	U	0.0620
Chromium	7440-47-3	1.82	U	1.85
Cobalt	**7440-48-4**	**0.264**		**0.0365**
Copper	**7440-50-8**	**33.7**		**2.20**
Lead	**7439-92-1**	**0.429**		**0.179**
Manganese	**7439-96-5**	**8.15**		**1.58**
Molybdenum	**7439-98-7**	**1.82**		**0.301**
Nickel	**7440-02-0**	**0.978**		**0.546**
Selenium	**7782-49-2**	**0.157**		**0.00750**
Thallium	**7440-28-0**	**6.07E-4**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**0.899**		**0.0443**
Zinc	7440-66-6	10.7	U	64.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091524-HM
Matrix: Air
Lab ID: 4092329-16
Sample Volume: 1936.14 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:30

Comments: Q8518505 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0447**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.128**		**0.00787**
Barium	**7440-39-3**	**2.75**		**0.899**
Beryllium	**7440-41-7**	**0.0217**		**0.00269**
Cadmium	7440-43-9	0.00670	U	0.0623
Chromium	**7440-47-3**	**2.47**		**1.86**
Cobalt	**7440-48-4**	**0.364**		**0.0366**
Copper	**7440-50-8**	**35.4**		**2.21**
Lead	**7439-92-1**	**0.243**		**0.180**
Manganese	**7439-96-5**	**8.48**		**1.59**
Molybdenum	**7439-98-7**	**2.58**		**0.302**
Nickel	**7440-02-0**	**1.35**		**0.548**
Selenium	**7782-49-2**	**0.132**		**0.00753**
Thallium	**7440-28-0**	**5.96E-4**	QB-04	**4.95E-4**
Vanadium	**7440-62-2**	**0.996**		**0.0445**
Zinc	7440-66-6	7.43	U	64.5

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091524-HM
Matrix: Air
Lab ID: 4092329-17
Sample Volume: 1700.416 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:44

Comments: Q8518504 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0693**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.104**		**0.00897**
Barium	**7440-39-3**	**1.69**		**1.02**
Beryllium	7440-41-7	0.00279	U	0.00306
Cadmium	7440-43-9	0.00506	U	0.0709
Chromium	7440-47-3	1.53	U	2.11
Cobalt	**7440-48-4**	**0.0984**		**0.0417**
Copper	**7440-50-8**	**16.7**		**2.52**
Lead	7439-92-1	0.179	U	0.205
Manganese	**7439-96-5**	**2.93**		**1.81**
Molybdenum	**7439-98-7**	**1.10**		**0.344**
Nickel	**7440-02-0**	**0.744**		**0.624**
Selenium	**7782-49-2**	**0.0707**		**0.00857**
Thallium	7440-28-0	3.17E-4	QB-04, U	5.64E-4
Vanadium	**7440-62-2**	**0.329**		**0.0506**
Zinc	7440-66-6	8.23	U	73.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091524-HM
Matrix: Air
Lab ID: 4092329-18
Sample Volume: 2097.448 m³
Filter ID:
Sampled: 09/15/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:58

Comments: Q8518497 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0165	SL, U	0.0299
Arsenic	7440-38-2	0.00298	U	0.00727
Barium	7440-39-3	0.745	U	0.830
Beryllium	7440-41-7	7.31E-5	U	0.00248
Cadmium	7440-43-9	4.73E-4	U	0.0575
Chromium	7440-47-3	0.737	U	1.71
Cobalt	7440-48-4	0.00722	U	0.0338
Copper	7440-50-8	0.335	U	2.04
Lead	7439-92-1	0.0226	U	0.166
Manganese	7439-96-5	0.101	U	1.47
Molybdenum	7439-98-7	0.132	U	0.278
Nickel	7440-02-0	0.315	U	0.506
Selenium	7782-49-2	ND	U	0.00695
Thallium	7440-28-0	8.12E-5	QB-04, U	4.57E-4
Vanadium	7440-62-2	0.00499	U	0.0410
Zinc	7440-66-6	3.37	U	59.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091624-HM
Matrix: Air
Lab ID: 4092329-19
Sample Volume: 1864.3 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 07:12

Comments: Q8518502 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0908**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.240**		**0.00818**
Barium	**7440-39-3**	**3.92**		**0.934**
Beryllium	**7440-41-7**	**0.00814**		**0.00279**
Cadmium	7440-43-9	0.0158	U	0.0647
Chromium	**7440-47-3**	**2.35**		**1.93**
Cobalt	**7440-48-4**	**0.361**		**0.0381**
Copper	**7440-50-8**	**51.2**		**2.30**
Lead	**7439-92-1**	**0.504**		**0.187**
Manganese	**7439-96-5**	**9.62**		**1.65**
Molybdenum	**7439-98-7**	**2.61**		**0.313**
Nickel	**7440-02-0**	**1.40**		**0.569**
Selenium	**7782-49-2**	**0.189**		**0.00782**
Thallium	**7440-28-0**	**7.22E-4**	QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0462**
Zinc	7440-66-6	13.2	U	67.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091624-HM
Matrix: Air
Lab ID: 4092329-20
Sample Volume: 1990.904 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 07:27

Comments: Q8518501 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.284**		**0.00766**
Barium	**7440-39-3**	**4.93**		**0.874**
Beryllium	**7440-41-7**	**0.0118**		**0.00262**
Cadmium	7440-43-9	0.0109	U	0.0606
Chromium	**7440-47-3**	**2.87**		**1.81**
Cobalt	**7440-48-4**	**0.511**		**0.0356**
Copper	**7440-50-8**	**35.6**		**2.15**
Lead	**7439-92-1**	**0.671**		**0.175**
Manganese	**7439-96-5**	**14.2**		**1.54**
Molybdenum	**7439-98-7**	**1.71**		**0.293**
Nickel	**7440-02-0**	**1.62**		**0.533**
Selenium	**7782-49-2**	**0.203**		**0.00732**
Thallium	**7440-28-0**	**9.13E-4**	QB-04	**4.81E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0432**
Zinc	7440-66-6	10.6	U	62.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091624-HM
Matrix: Air
Lab ID: 4092329-21
Sample Volume: 1964.044 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 08:55

Comments: Q8518499 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0514**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.203**		**0.00776**
Barium	**7440-39-3**	**2.89**	LJ, QX	**0.886**
Beryllium	**7440-41-7**	**0.0175**		**0.00265**
Cadmium	7440-43-9	0.0170	U	0.0614
Chromium	**7440-47-3**	**2.62**		**1.83**
Cobalt	**7440-48-4**	**0.405**		**0.0361**
Copper	**7440-50-8**	**53.8**		**2.18**
Lead	**7439-92-1**	**0.366**		**0.177**
Manganese	**7439-96-5**	**11.5**		**1.57**
Molybdenum	**7439-98-7**	**4.14**		**0.297**
Nickel	**7440-02-0**	**2.16**		**0.540**
Selenium	**7782-49-2**	**0.185**		**0.00742**
Thallium	**7440-28-0**	**0.00108**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**0.996**		**0.0438**
Zinc	7440-66-6	9.62	U	63.6

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091624-HM
Matrix: Air
Lab ID: 4092329-22
Sample Volume: 1719.771 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:13

Comments: Q8518496 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.170**		**0.00886**
Barium	**7440-39-3**	**2.53**	LJ, QX	**1.01**
Beryllium	**7440-41-7**	**0.00540**		**0.00303**
Cadmium	7440-43-9	0.0129	U	0.0701
Chromium	**7440-47-3**	**4.02**		**2.09**
Cobalt	**7440-48-4**	**0.295**		**0.0412**
Copper	**7440-50-8**	**37.3**		**2.49**
Lead	**7439-92-1**	**0.344**		**0.202**
Manganese	**7439-96-5**	**8.71**		**1.79**
Molybdenum	**7439-98-7**	**2.22**		**0.340**
Nickel	**7440-02-0**	**2.38**		**0.617**
Selenium	**7782-49-2**	**0.185**		**0.00848**
Thallium	**7440-28-0**	**9.19E-4**	QB-04	**5.57E-4**
Vanadium	**7440-62-2**	**0.709**		**0.0500**
Zinc	7440-66-6	12.0	U	72.7

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091724-HM
Matrix: Air
Lab ID: 4092329-23
Sample Volume: 1918.286 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:26

Comments: Q8518494 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0658**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.193**		**0.00795**
Barium	**7440-39-3**	**2.85**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.00500**		**0.00271**
Cadmium	7440-43-9	0.0223	U	0.0628
Chromium	7440-47-3	1.72	U	1.87
Cobalt	**7440-48-4**	**0.239**		**0.0370**
Copper	**7440-50-8**	**47.6**		**2.23**
Lead	**7439-92-1**	**0.376**		**0.182**
Manganese	**7439-96-5**	**7.59**		**1.60**
Molybdenum	**7439-98-7**	**2.31**		**0.304**
Nickel	**7440-02-0**	**0.955**		**0.553**
Selenium	**7782-49-2**	**0.209**		**0.00760**
Thallium	**7440-28-0**	**6.76E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**0.855**		**0.0449**
Zinc	7440-66-6	8.66	U	65.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091724-HM
Matrix: Air
Lab ID: 4092329-24
Sample Volume: 1950.143 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/24/24 22:55

Comments: Q8518493 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0999**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.282**		**0.00782**
Barium	**7440-39-3**	**3.63**		**0.893**
Beryllium	**7440-41-7**	**0.00998**		**0.00267**
Cadmium	7440-43-9	0.00885	U	0.0618
Chromium	7440-47-3	1.83	U	1.84
Cobalt	**7440-48-4**	**0.317**		**0.0364**
Copper	**7440-50-8**	**46.5**		**2.19**
Lead	**7439-92-1**	**0.948**		**0.179**
Manganese	**7439-96-5**	**10.3**		**1.58**
Molybdenum	**7439-98-7**	**1.57**		**0.300**
Nickel	**7440-02-0**	**1.05**		**0.544**
Selenium	**7782-49-2**	**0.248**	SRD-01	**0.00748**
Thallium	**7440-28-0**	**8.44E-4**		**4.91E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0441**
Zinc	7440-66-6	15.5	U	64.1

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091724-HM
Matrix: Air
Lab ID: 4092329-25
Sample Volume: 1891.086 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:41

Comments: Q8518489 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0668**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.272**		**0.00806**
Barium	**7440-39-3**	**3.45**	LJ, QX	**0.921**
Beryllium	**7440-41-7**	**0.0150**		**0.00275**
Cadmium	7440-43-9	0.0232	U	0.0638
Chromium	**7440-47-3**	**4.12**		**1.90**
Cobalt	**7440-48-4**	**0.635**		**0.0375**
Copper	**7440-50-8**	**77.0**		**2.26**
Lead	**7439-92-1**	**0.435**		**0.184**
Manganese	**7439-96-5**	**17.4**		**1.63**
Molybdenum	**7439-98-7**	**3.90**		**0.309**
Nickel	**7440-02-0**	**6.35**		**0.561**
Selenium	**7782-49-2**	**0.240**		**0.00771**
Thallium	**7440-28-0**	**0.00129**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0455**
Zinc	7440-66-6	23.2	U	66.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091724-HM
Matrix: Air
Lab ID: 4092329-26
Sample Volume: 1837.719 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:56

Comments: Q8518488 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.778**		**0.00830**
Barium	**7440-39-3**	**5.45**	LJ, QX	**0.947**
Beryllium	**7440-41-7**	**0.0339**		**0.00283**
Cadmium	7440-43-9	0.0155	U	0.0656
Chromium	**7440-47-3**	**7.87**		**1.96**
Cobalt	**7440-48-4**	**1.06**		**0.0386**
Copper	**7440-50-8**	**24.4**		**2.33**
Lead	**7439-92-1**	**0.619**		**0.189**
Manganese	**7439-96-5**	**34.1**		**1.67**
Molybdenum	**7439-98-7**	**1.38**		**0.318**
Nickel	**7440-02-0**	**4.48**		**0.577**
Selenium	**7782-49-2**	**0.284**		**0.00793**
Thallium	**7440-28-0**	**0.00183**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0468**
Zinc	7440-66-6	15.0	U	68.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091724-HM
Matrix: Air
Lab ID: 4092329-27
Sample Volume: 1918.286 m³
Filter ID:
Sampled: 09/17/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:13

Comments: Q8518483 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0458**	FB-01, SL	**0.0327**
Arsenic	**7440-38-2**	**0.00907**	FB-01	**0.00795**
Barium	**7440-39-3**	**0.963**	FB-01, LJ, QX	**0.908**
Beryllium	7440-41-7	3.47E-4	U	0.00271
Cadmium	7440-43-9	0.00124	U	0.0628
Chromium	7440-47-3	0.982	U	1.87
Cobalt	7440-48-4	0.0186	U	0.0370
Copper	**7440-50-8**	**2.83**	FB-01	**2.23**
Lead	7439-92-1	0.135	U	0.182
Manganese	7439-96-5	0.399	U	1.60
Molybdenum	7439-98-7	0.193	U	0.304
Nickel	7440-02-0	0.460	U	0.553
Selenium	7782-49-2	0.00621	U	0.00760
Thallium	7440-28-0	1.46E-4	QB-04, U	5.00E-4
Vanadium	7440-62-2	0.0233	U	0.0449
Zinc	7440-66-6	15.2	U	65.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091824-HM
Matrix: Air
Lab ID: 4092329-28
Sample Volume: 1859.631 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:27

Comments: Q8518487 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.161**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.608**		**0.00820**
Barium	**7440-39-3**	**8.68**	LJ, QX	**0.936**
Beryllium	**7440-41-7**	**0.0174**		**0.00280**
Cadmium	7440-43-9	0.0295	U	0.0648
Chromium	**7440-47-3**	**3.67**		**1.93**
Cobalt	**7440-48-4**	**0.728**		**0.0381**
Copper	**7440-50-8**	**39.3**		**2.30**
Lead	**7439-92-1**	**3.26**		**0.187**
Manganese	**7439-96-5**	**21.4**		**1.65**
Molybdenum	**7439-98-7**	**2.17**		**0.314**
Nickel	**7440-02-0**	**2.22**		**0.570**
Selenium	**7782-49-2**	**0.253**		**0.00784**
Thallium	**7440-28-0**	**0.00133**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**2.49**		**0.0463**
Zinc	7440-66-6	19.5	U	67.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091824-HM
Matrix: Air
Lab ID: 4092329-29
Sample Volume: 2048.864 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:46

Comments: Q8518486 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0907**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.319**		**0.00744**
Barium	**7440-39-3**	**4.46**	LJ, QX	**0.850**
Beryllium	**7440-41-7**	**0.00999**		**0.00254**
Cadmium	7440-43-9	0.00916	U	0.0588
Chromium	**7440-47-3**	**2.14**		**1.75**
Cobalt	**7440-48-4**	**0.374**		**0.0346**
Copper	**7440-50-8**	**47.2**		**2.09**
Lead	**7439-92-1**	**1.22**		**0.170**
Manganese	**7439-96-5**	**12.0**		**1.50**
Molybdenum	**7439-98-7**	**1.91**		**0.285**
Nickel	**7440-02-0**	**1.27**		**0.518**
Selenium	**7782-49-2**	**0.232**		**0.00712**
Thallium	**7440-28-0**	**9.31E-4**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0420**
Zinc	7440-66-6	10.4	U	61.0

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091824-HM
Matrix: Air
Lab ID: 4092329-30
Sample Volume: 1916.392 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 11:02

Comments: Q8518485 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0638**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.197**		**0.00796**
Barium	**7440-39-3**	**3.45**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.0229**		**0.00272**
Cadmium	7440-43-9	0.0115	U	0.0629
Chromium	**7440-47-3**	**3.03**		**1.88**
Cobalt	**7440-48-4**	**0.536**		**0.0370**
Copper	**7440-50-8**	**56.5**		**2.23**
Lead	**7439-92-1**	**0.294**		**0.182**
Manganese	**7439-96-5**	**13.6**		**1.60**
Molybdenum	**7439-98-7**	**3.00**		**0.305**
Nickel	**7440-02-0**	**2.60**		**0.554**
Selenium	**7782-49-2**	**0.200**		**0.00761**
Thallium	**7440-28-0**	**9.87E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0449**
Zinc	7440-66-6	11.2	U	65.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091824-HM
Matrix: Air
Lab ID: 4092329-31
Sample Volume: 1916.359 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 12:37

Comments: Q8518484 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.238**		**0.00796**
Barium	**7440-39-3**	**2.99**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.00735**		**0.00272**
Cadmium	7440-43-9	0.00950	U	0.0629
Chromium	**7440-47-3**	**2.40**		**1.88**
Cobalt	**7440-48-4**	**0.307**		**0.0370**
Copper	**7440-50-8**	**29.1**		**2.23**
Lead	**7439-92-1**	**0.283**		**0.182**
Manganese	**7439-96-5**	**9.60**		**1.60**
Molybdenum	**7439-98-7**	**1.72**		**0.305**
Nickel	**7440-02-0**	**1.54**		**0.554**
Selenium	**7782-49-2**	**0.173**		**0.00761**
Thallium	**7440-28-0**	**9.76E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0449**
Zinc	7440-66-6	9.77	U	65.2

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-091324-HM
Matrix: Air
Lab ID: 4092329-32
Sample Volume: 1859.631 m³
Filter ID:
Sampled: 09/13/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 13:11

Comments: Q8518517 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0193	SL, U	0.0338
Arsenic	7440-38-2	0.00245	U	0.00820
Barium	7440-39-3	0.824	LJ, QX, U	0.936
Beryllium	7440-41-7	1.28E-4	U	0.00280
Cadmium	7440-43-9	6.19E-4	U	0.0648
Chromium	7440-47-3	0.953	U	1.93
Cobalt	7440-48-4	0.00986	U	0.0381
Copper	7440-50-8	0.351	U	2.30
Lead	7439-92-1	0.0240	U	0.187
Manganese	7439-96-5	0.154	U	1.65
Molybdenum	7439-98-7	0.156	U	0.314
Nickel	7440-02-0	0.400	U	0.570
Selenium	7782-49-2	0.00279	U	0.00784
Thallium	7440-28-0	1.79E-4	QB-04, U	5.15E-4
Vanadium	7440-62-2	ND	U	0.0463
Zinc	7440-66-6	2.17	U	67.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB1)				Prepared & Analyzed: 09/24/24						
Antimony	0.656		ng/l							
Arsenic	0.869		ng/l							
Barium	0.0813		ng/l							
Beryllium	-0.789		ng/l							U
Cadmium	-0.0464		ng/l							U
Chromium	1.95		ng/l							
Cobalt	0.181		ng/l							
Copper	44.6		ng/l							
Lead	4.37		ng/l							
Manganese	10.0		ng/l							
Molybdenum	19.2		ng/l							
Nickel	2.34		ng/l							
Selenium	1.81		ng/l							
Thallium	1.36		ng/l							
Vanadium	-49.2		ng/l							U
Zinc	-90.2		ng/l							U
Calibration Blank (2409102-CCB2)				Prepared & Analyzed: 09/24/24						
Antimony	0.604		ng/l							
Arsenic	2.33		ng/l							
Barium	1.28		ng/l							
Beryllium	-0.860		ng/l							U
Cadmium	0.0393		ng/l							
Chromium	1.74		ng/l							
Cobalt	0.486		ng/l							
Copper	20.3		ng/l							
Lead	2.70		ng/l							
Manganese	6.53		ng/l							
Molybdenum	-2.67		ng/l							U
Nickel	1.83		ng/l							
Selenium	-1.65		ng/l							U
Thallium	0.855		ng/l							
Vanadium	-49.7		ng/l							U
Zinc	-134		ng/l							U
Calibration Blank (2409102-CCB3)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.368		ng/l							
Arsenic	4.68		ng/l							
Barium	1.06		ng/l							
Beryllium	-0.955		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB3) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Cadmium	0.0502		ng/l							
Chromium	1.44		ng/l							
Cobalt	0.418		ng/l							
Copper	10.1		ng/l							
Lead	1.56		ng/l							
Manganese	12.1		ng/l							
Molybdenum	-2.84		ng/l							U
Nickel	3.40		ng/l							
Selenium	10.5		ng/l							
Thallium	1.18		ng/l							
Vanadium	-58.3		ng/l							U
Zinc	-126		ng/l							U
Calibration Blank (2409102-CCB4)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.685		ng/l							
Arsenic	2.56		ng/l							
Barium	0.570		ng/l							
Beryllium	-1.50		ng/l							U
Cadmium	0.0585		ng/l							
Chromium	1.30		ng/l							
Cobalt	0.388		ng/l							
Copper	3.77		ng/l							
Lead	0.732		ng/l							
Manganese	9.76		ng/l							
Molybdenum	-3.31		ng/l							U
Nickel	3.88		ng/l							
Selenium	2.22		ng/l							
Thallium	0.977		ng/l							
Vanadium	-63.9		ng/l							U
Zinc	-155		ng/l							U
Calibration Blank (2409102-CCB5)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.674		ng/l							
Arsenic	1.76		ng/l							
Barium	0.491		ng/l							
Beryllium	-1.86		ng/l							U
Cadmium	-0.0372		ng/l							U
Chromium	1.14		ng/l							
Cobalt	0.280		ng/l							
Copper	5.70		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB5) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Lead	1.11		ng/l							
Manganese	10.3		ng/l							
Molybdenum	-0.643		ng/l							U
Nickel	3.09		ng/l							
Selenium	6.72		ng/l							
Thallium	1.53		ng/l							QB-04
Vanadium	-70.5		ng/l							U
Zinc	-156		ng/l							U
Calibration Blank (2409102-CCB6)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.705		ng/l							
Arsenic	3.23		ng/l							
Barium	0.924		ng/l							
Beryllium	-1.64		ng/l							U
Cadmium	0.122		ng/l							
Chromium	2.15		ng/l							
Cobalt	0.351		ng/l							
Copper	9.02		ng/l							
Lead	1.29		ng/l							
Manganese	10.5		ng/l							
Molybdenum	0.898		ng/l							
Nickel	4.27		ng/l							
Selenium	12.2		ng/l							
Thallium	1.49		ng/l							QB-04
Vanadium	-80.0		ng/l							U
Zinc	-107		ng/l							U
Calibration Blank (2409102-CCB7)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.334		ng/l							
Arsenic	0.767		ng/l							
Barium	0.414		ng/l							
Beryllium	-1.55		ng/l							U
Cadmium	0.0232		ng/l							
Chromium	2.35		ng/l							
Cobalt	0.145		ng/l							
Copper	4.50		ng/l							
Lead	0.927		ng/l							
Manganese	9.25		ng/l							
Molybdenum	-2.99		ng/l							U
Nickel	4.84		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB7) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Selenium	13.4		ng/l							
Thallium	1.27		ng/l							
Vanadium	-77.0		ng/l							U
Zinc	-151		ng/l							U
Calibration Check (2409102-CCV1)				Prepared & Analyzed: 09/24/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4800		ng/l	5000.0		96.1	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2409102-CCV2)				Prepared & Analyzed: 09/24/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	517000		ng/l	500000		103	90-110			

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Check (2409102-CCV3)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4820		ng/l	5000.0		96.4	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.0	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2409102-CCV4)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2409102-CCV5)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	221000		ng/l	200000		110	90-110			
Beryllium	4780		ng/l	5000.0		95.7	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Check (2409102-CCV5) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	53200		ng/l	50000		106	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2409102-CCV6)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	223000		ng/l	200000		111	90-110			LJ, QX
Beryllium	4700		ng/l	5000.0		94.0	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	54700		ng/l	50000		109	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2409102-CCV7)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4580		ng/l	5000.0		91.6	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Check (2409102-CCV7) Contin					Prepared: 09/24/24 Analyzed: 09/25/24					
Lead	207000		ng/l	200000		103	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	53500		ng/l	50000		107	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	532000		ng/l	500000		106	90-110			
High Cal Check (2409102-HCV1)					Prepared & Analyzed: 09/24/24					
Antimony	39900		ng/l	40000		99.8	95-105			
Arsenic	39900		ng/l	40000		99.8	95-105			
Barium	401000		ng/l	400000		100	95-105			
Beryllium	9870		ng/l	10000		98.7	95-105			
Cadmium	40200		ng/l	40000		100	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	99800		ng/l	100000		99.8	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.7	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	239000		ng/l	240000		99.5	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	990000		ng/l	1.0000E6		99.0	95-105			
Initial Cal Blank (2409102-ICB1)					Prepared & Analyzed: 09/24/24					
Antimony	1.21		ng/l							
Arsenic	-1.01		ng/l							U
Barium	0.770		ng/l							
Beryllium	-0.444		ng/l							U
Cadmium	-0.0427		ng/l							U
Chromium	2.70		ng/l							
Cobalt	0.0816		ng/l							
Copper	36.1		ng/l							
Lead	8.24		ng/l							
Manganese	4.71		ng/l							
Molybdenum	5.48		ng/l							
Nickel	1.50		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Initial Cal Blank (2409102-ICB1) Continu				Prepared & Analyzed: 09/24/24						
Selenium	1.61		ng/l							
Thallium	0.769		ng/l							
Vanadium	-49.0		ng/l							U
Zinc	-136		ng/l							U
Initial Cal Check (2409102-ICV1)				Prepared & Analyzed: 09/24/24						
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	489000		ng/l	500000		97.7	90-110			
Molybdenum	49600		ng/l	50000		99.1	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	507		ng/l	500.00		101	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2409102-IFA1)				Prepared & Analyzed: 09/24/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	317000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Interference Check B (2409102-IFB1)					Prepared & Analyzed: 09/24/24					
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4720		ng/l	5000.0		94.4	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	234000		ng/l	240000		97.3	80-120			
Cobalt	49400		ng/l	50000		98.7	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.9	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	506000		ng/l	500000		101	80-120			
Molybdenum	371000		ng/l	350000		106	80-120			
Nickel	116000		ng/l	120000		96.7	80-120			
Selenium	19300		ng/l	20000		96.5	80-120			
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	19700		ng/l	20000		98.3	80-120			
Zinc	475000		ng/l	500000		95.0	80-120			
Batch B4I2407 - ICP-MS Extraction										
Blank (B4I2407-BLK1)					Prepared & Analyzed: 09/24/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4I2407-BS1)					Prepared & Analyzed: 09/24/24					
Antimony	0.657	0.0386	ng/m³ Air	1.3829		47.5	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.1	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
LCS (B4I2407-BS1) Continued					Prepared & Analyzed: 09/24/24					
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		91.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		96.6	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.2	0.214	ng/m³ Air	13.829		95.6	80-120			
Manganese	8.51	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.03	0.652	ng/m³ Air	2.7658		110	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		96.8	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.1	80-120			
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.2	80-120			
Zinc	89.4	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4I2407-BS2)					Prepared & Analyzed: 09/24/24					
Antimony	0.689	0.0386	ng/m³ Air	1.3829		49.8	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.7	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.9	80-120			
Beryllium	1.23	0.00320	ng/m³ Air	1.3829		89.2	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.2	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.28	0.0436	ng/m³ Air	1.3829		92.8	80-120			
Copper	28.1	2.63	ng/m³ Air	27.658		101	80-120			
Lead	12.7	0.214	ng/m³ Air	13.829		91.9	80-120			
Manganese	8.22	1.89	ng/m³ Air	8.2975		99.0	80-120			
Molybdenum	1.51	0.359	ng/m³ Air	1.3829		109	80-120			
Nickel	2.99	0.652	ng/m³ Air	2.7658		108	80-120			
Selenium	2.60	0.00896	ng/m³ Air	2.7658		94.0	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.6	80-120			
Vanadium	2.58	0.0529	ng/m³ Air	2.7658		93.3	80-120			
Zinc	86.1	76.8	ng/m³ Air	82.975		104	80-120			
Duplicate (B4I2407-DUP1)		**Source: 4092329-04**			Prepared & Analyzed: 09/24/24					
Antimony	0.169	0.0394	ng/m³ Air		0.193			13.3	10	SL
Arsenic	0.251	0.00957	ng/m³ Air		0.275			8.95	10	
Barium	6.26	1.09	ng/m³ Air		6.13			2.10	10	
Beryllium	0.00869	0.00327	ng/m³ Air		0.00988			12.9	10	
Cadmium	ND	0.0756	ng/m³ Air		ND				10	U
Chromium	3.48	2.26	ng/m³ Air		3.28			5.85	10	
Cobalt	0.352	0.0445	ng/m³ Air		0.378			7.26	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Duplicate (B4I2407-DUP1) Continued			**Source: 4092329-04**		Prepared & Analyzed: 09/24/24					
Copper	36.6	2.68	ng/m³ Air		38.6			5.28	10	
Lead	0.799	0.218	ng/m³ Air		1.05			26.9	10	
Manganese	10.5	1.93	ng/m³ Air		11.2			6.76	10	
Molybdenum	2.01	0.366	ng/m³ Air		1.96			2.23	10	
Nickel	2.11	0.666	ng/m³ Air		2.05			3.02	10	
Selenium	0.206	0.00915	ng/m³ Air		0.233			12.3	10	
Thallium	0.00120	6.01E-4	ng/m³ Air		0.00127			5.49	10	
Vanadium	1.08	0.0540	ng/m³ Air		1.09			0.808	10	
Zinc	ND	78.4	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP2)			**Source: 4092329-24**		Prepared & Analyzed: 09/24/24					
Antimony	0.0989	0.0322	ng/m³ Air		0.0999			1.04	10	SL
Arsenic	0.290	0.00782	ng/m³ Air		0.282			2.58	10	
Barium	3.77	0.893	ng/m³ Air		3.63			3.81	10	
Beryllium	0.0105	0.00267	ng/m³ Air		0.00998			5.03	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	1.90	1.84	ng/m³ Air		ND				10	
Cobalt	0.328	0.0364	ng/m³ Air		0.317			3.36	10	
Copper	48.1	2.19	ng/m³ Air		46.5			3.55	10	
Lead	1.04	0.179	ng/m³ Air		0.948			9.34	10	
Manganese	10.7	1.58	ng/m³ Air		10.3			4.02	10	
Molybdenum	1.64	0.300	ng/m³ Air		1.57			4.82	10	
Nickel	1.07	0.544	ng/m³ Air		1.05			1.77	10	
Selenium	0.243	0.00748	ng/m³ Air		0.248			2.28	10	
Thallium	8.11E-4	4.91E-4	ng/m³ Air		8.44E-4			3.95	10	
Vanadium	1.19	0.0441	ng/m³ Air		1.13			5.51	10	
Zinc	ND	64.1	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP3)			**Source: 4092329-10**		Prepared: 09/24/24 Analyzed: 09/25/24					
Antimony	0.0990	0.0313	ng/m³ Air		0.100			1.39	10	SL
Arsenic	0.225	0.00759	ng/m³ Air		0.227			0.784	10	
Barium	3.18	0.866	ng/m³ Air		3.16			0.539	10	
Beryllium	0.00657	0.00259	ng/m³ Air		0.00607			7.94	10	
Cadmium	ND	0.0600	ng/m³ Air		ND				10	U
Chromium	ND	1.79	ng/m³ Air		ND				10	U
Cobalt	0.237	0.0353	ng/m³ Air		0.238			0.528	10	
Copper	33.3	2.13	ng/m³ Air		33.6			0.877	10	
Lead	0.502	0.173	ng/m³ Air		0.505			0.562	10	
Manganese	7.74	1.53	ng/m³ Air		7.72			0.338	10	
Molybdenum	2.03	0.291	ng/m³ Air		2.04			0.336	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Duplicate (B4I2407-DUP3) Continued		**Source: 4092329-10**		Prepared: 09/24/24 Analyzed: 09/25/24						
Nickel	0.910	0.528	ng/m³ Air		0.921			1.16	10	
Selenium	0.257	0.00726	ng/m³ Air		0.271			5.14	10	
Thallium	0.00130	4.77E-4	ng/m³ Air		0.00133			1.93	10	
Vanadium	0.893	0.0428	ng/m³ Air		0.888			0.542	10	
Zinc	ND	62.2	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP4)		**Source: 4092329-31**		Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.109	0.0328	ng/m³ Air		0.111			2.18	10	SL
Arsenic	0.238	0.00796	ng/m³ Air		0.238			0.213	10	
Barium	2.90	0.908	ng/m³ Air		2.99			2.96	10	LJ, QX
Beryllium	0.00744	0.00272	ng/m³ Air		0.00735			1.17	10	
Cadmium	ND	0.0629	ng/m³ Air		ND				10	U
Chromium	2.36	1.88	ng/m³ Air		2.40			2.03	10	
Cobalt	0.300	0.0370	ng/m³ Air		0.307			2.20	10	
Copper	28.4	2.23	ng/m³ Air		29.1			2.34	10	
Lead	0.279	0.182	ng/m³ Air		0.283			1.40	10	
Manganese	9.42	1.60	ng/m³ Air		9.60			1.85	10	
Molybdenum	1.70	0.305	ng/m³ Air		1.72			1.56	10	
Nickel	1.51	0.554	ng/m³ Air		1.54			2.00	10	
Selenium	0.186	0.00761	ng/m³ Air		0.173			7.67	10	
Thallium	9.43E-4	5.00E-4	ng/m³ Air		9.76E-4			3.41	10	QB-04
Vanadium	1.01	0.0449	ng/m³ Air		1.02			1.60	10	
Zinc	ND	65.2	ng/m³ Air		ND				10	U
Matrix Spike (B4I2407-MS1)		**Source: 4092329-04**		Prepared & Analyzed: 09/24/24						
Antimony	0.957	0.0394	ng/m³ Air	1.4118	0.193	54.1	80-120			SL
Arsenic	3.03	0.00957	ng/m³ Air	2.8235	0.275	97.5	80-120			
Barium	34.5	1.09	ng/m³ Air	28.235	6.13	101	80-120			
Beryllium	1.35	0.00327	ng/m³ Air	1.4118	0.00988	94.6	80-120			
Cadmium	1.46	0.0756	ng/m³ Air	1.4118	ND	103	80-120			
Chromium	17.2	2.26	ng/m³ Air	14.118	3.28	98.8	80-120			
Cobalt	1.65	0.0445	ng/m³ Air	1.4118	0.378	90.2	80-120			
Copper	56.3	2.68	ng/m³ Air	28.235	38.6	62.6	80-120			QM-07
Lead	14.6	0.218	ng/m³ Air	14.118	1.05	96.1	80-120			
Manganese	18.4	1.93	ng/m³ Air	8.4706	11.2	84.7	80-120			
Molybdenum	2.78	0.366	ng/m³ Air	1.4118	1.96	58.1	80-120			QM-07
Nickel	4.31	0.666	ng/m³ Air	2.8235	2.05	80.2	80-120			
Selenium	2.98	0.00915	ng/m³ Air	2.8235	0.233	97.3	80-120			
Thallium	0.140	6.01E-4	ng/m³ Air	0.14118	0.00127	98.3	80-120			
Vanadium	3.75	0.0540	ng/m³ Air	2.8235	1.09	94.2	80-120			

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REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Matrix Spike (B4I2407-MS1) Continued Source: 4092329-04 Prepared & Analyzed: 09/24/24										
Zinc	107	78.4	ng/m³ Air	84.706	ND	126	80-120			
Matrix Spike (B4I2407-MS2) Source: 4092329-24 Prepared & Analyzed: 09/24/24										
Antimony	0.731	0.0322	ng/m³ Air	1.1538	0.0999	54.7	80-120			SL
Arsenic	2.44	0.00782	ng/m³ Air	2.3075	0.282	93.6	80-120			
Barium	26.0	0.893	ng/m³ Air	23.075	3.63	96.9	80-120			
Beryllium	1.10	0.00267	ng/m³ Air	1.1538	0.00998	94.3	80-120			
Cadmium	1.10	0.0618	ng/m³ Air	1.1538	ND	95.0	80-120			
Chromium	12.8	1.84	ng/m³ Air	11.538	ND	111	80-120			
Cobalt	1.33	0.0364	ng/m³ Air	1.1538	0.317	87.6	80-120			
Copper	65.7	2.19	ng/m³ Air	23.075	46.5	83.5	80-120			
Lead	11.7	0.179	ng/m³ Air	11.538	0.948	93.1	80-120			
Manganese	16.5	1.58	ng/m³ Air	6.9226	10.3	89.1	80-120			
Molybdenum	2.58	0.300	ng/m³ Air	1.1538	1.57	88.2	80-120			
Nickel	3.25	0.544	ng/m³ Air	2.3075	1.05	95.6	80-120			
Selenium	2.37	0.00748	ng/m³ Air	2.3075	0.248	91.8	80-120			
Thallium	0.108	4.91E-4	ng/m³ Air	0.11538	8.44E-4	93.0	80-120			
Vanadium	3.23	0.0441	ng/m³ Air	2.3075	1.13	91.0	80-120			
Zinc	80.8	64.1	ng/m³ Air	69.226	ND	117	80-120			
Matrix Spike Dup (B4I2407-MSD1) Source: 4092329-04 Prepared & Analyzed: 09/24/24										
Antimony	0.924	0.0394	ng/m³ Air	1.4118	0.193	51.7	80-120	3.56	20	SL
Arsenic	2.95	0.00957	ng/m³ Air	2.8235	0.275	94.8	80-120	2.55	20	
Barium	34.2	1.09	ng/m³ Air	28.235	6.13	99.4	80-120	0.955	20	
Beryllium	1.41	0.00327	ng/m³ Air	1.4118	0.00988	99.2	80-120	4.76	20	
Cadmium	1.39	0.0756	ng/m³ Air	1.4118	ND	98.6	80-120	4.70	20	
Chromium	17.2	2.26	ng/m³ Air	14.118	3.28	98.4	80-120	0.277	20	
Cobalt	1.63	0.0445	ng/m³ Air	1.4118	0.378	89.0	80-120	1.05	20	
Copper	45.8	2.68	ng/m³ Air	28.235	38.6	25.3	80-120	20.6	20	QM-07
Lead	14.3	0.218	ng/m³ Air	14.118	1.05	93.7	80-120	2.36	20	
Manganese	17.0	1.93	ng/m³ Air	8.4706	11.2	68.1	80-120	7.95	20	QM-07
Molybdenum	2.47	0.366	ng/m³ Air	1.4118	1.96	35.7	80-120	12.0	20	QM-07
Nickel	4.45	0.666	ng/m³ Air	2.8235	2.05	85.2	80-120	3.23	20	
Selenium	2.87	0.00915	ng/m³ Air	2.8235	0.233	93.6	80-120	3.63	20	
Thallium	0.138	6.01E-4	ng/m³ Air	0.14118	0.00127	96.8	80-120	1.62	20	
Vanadium	3.68	0.0540	ng/m³ Air	2.8235	1.09	91.9	80-120	1.73	20	
Zinc	100	78.4	ng/m³ Air	84.706	ND	118	80-120	6.55	20	
Matrix Spike Dup (B4I2407-MSD2) Source: 4092329-24 Prepared & Analyzed: 09/24/24										
Antimony	0.765	0.0322	ng/m³ Air	1.1538	0.0999	57.7	80-120	4.66	20	SL
Arsenic	2.47	0.00782	ng/m³ Air	2.3075	0.282	94.6	80-120	0.963	20	

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Matrix Spike Dup (B4I2407-MSD2) Contir			**Source: 4092329-24**		Prepared & Analyzed: 09/24/24					
Barium	26.6	0.893	ng/m³ Air	23.075	3.63	99.4	80-120	2.17	20	
Beryllium	1.08	0.00267	ng/m³ Air	1.1538	0.00998	92.5	80-120	1.96	20	
Cadmium	1.12	0.0618	ng/m³ Air	1.1538	ND	97.5	80-120	2.51	20	
Chromium	13.0	1.84	ng/m³ Air	11.538	ND	113	80-120	1.79	20	
Cobalt	1.34	0.0364	ng/m³ Air	1.1538	0.317	89.0	80-120	1.18	20	
Copper	67.7	2.19	ng/m³ Air	23.075	46.5	92.0	80-120	2.93	20	
Lead	11.8	0.179	ng/m³ Air	11.538	0.948	94.5	80-120	1.40	20	
Manganese	16.4	1.58	ng/m³ Air	6.9226	10.3	88.1	80-120	0.444	20	
Molybdenum	2.61	0.300	ng/m³ Air	1.1538	1.57	90.5	80-120	1.00	20	
Nickel	3.24	0.544	ng/m³ Air	2.3075	1.05	95.1	80-120	0.368	20	
Selenium	2.43	0.00748	ng/m³ Air	2.3075	0.248	94.7	80-120	2.78	20	
Thallium	0.111	4.91E-4	ng/m³ Air	0.11538	8.44E-4	95.7	80-120	2.85	20	
Vanadium	3.23	0.0441	ng/m³ Air	2.3075	1.13	91.2	80-120	0.147	20	
Zinc	80.2	64.1	ng/m³ Air	69.226	ND	116	80-120	0.660	20	
Post Spike (B4I2407-PS1)			**Source: 4092329-04**		Prepared & Analyzed: 09/24/24					
Antimony	0.467	0.0394	ng/m³ Air	0.28235	0.193	96.9	75-125			SL
Arsenic	1.61	0.00957	ng/m³ Air	1.4118	0.275	94.3	75-125			
Barium	8.84	1.09	ng/m³ Air	2.8235	6.13	96.0	75-125			
Beryllium	0.272	0.00327	ng/m³ Air	0.28235	0.00988	93.0	75-125			
Cadmium	0.170	0.0756	ng/m³ Air	0.14118	ND	120	75-125			
Chromium	4.61	2.26	ng/m³ Air	1.4118	3.28	94.4	75-125			
Cobalt	0.640	0.0445	ng/m³ Air	0.28235	0.378	92.8	75-125			
Copper	52.9	2.68	ng/m³ Air	14.118	38.6	101	75-125			
Lead	29.2	0.218	ng/m³ Air	28.235	1.05	99.8	75-125			
Manganese	14.1	1.93	ng/m³ Air	2.8235	11.2	99.8	75-125			
Molybdenum	3.31	0.366	ng/m³ Air	1.4118	1.96	95.7	75-125			
Nickel	4.80	0.666	ng/m³ Air	2.8235	2.05	97.4	75-125			
Selenium	1.58	0.00915	ng/m³ Air	1.4118	0.233	95.7	75-125			
Thallium	0.0706	6.01E-4	ng/m³ Air	7.0588E-2	0.00127	98.2	75-125			
Vanadium	2.43	0.0540	ng/m³ Air	1.4118	1.09	94.9	75-125			
Zinc	ND	78.4	ng/m³ Air	28.235	ND		75-125			U
Post Spike (B4I2407-PS2)			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Antimony	0.320	0.0322	ng/m³ Air	0.23075	0.0999	95.3	75-125			SL
Arsenic	1.36	0.00782	ng/m³ Air	1.1538	0.282	93.3	75-125			
Barium	5.81	0.893	ng/m³ Air	2.3075	3.63	94.5	75-125			
Beryllium	0.219	0.00267	ng/m³ Air	0.23075	0.00998	90.4	75-125			
Cadmium	0.120	0.0618	ng/m³ Air	0.11538	ND	104	75-125			
Chromium	2.87	1.84	ng/m³ Air	1.1538	ND	248	75-125			

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Post Spike (B4I2407-PS2) Continued			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Cobalt	0.526	0.0364	ng/m³ Air	0.23075	0.317	90.5	75-125			
Copper	56.6	2.19	ng/m³ Air	11.538	46.5	88.2	75-125			
Lead	23.6	0.179	ng/m³ Air	23.075	0.948	98.3	75-125			
Manganese	12.4	1.58	ng/m³ Air	2.3075	10.3	91.2	75-125			
Molybdenum	2.62	0.300	ng/m³ Air	1.1538	1.57	91.3	75-125			
Nickel	3.24	0.544	ng/m³ Air	2.3075	1.05	94.9	75-125			
Selenium	1.36	0.00748	ng/m³ Air	1.1538	0.248	96.6	75-125			
Thallium	0.0568	4.91E-4	ng/m³ Air	5.7688E-2	8.44E-4	97.0	75-125			
Vanadium	2.17	0.0441	ng/m³ Air	1.1538	1.13	90.1	75-125			
Zinc	ND	64.1	ng/m³ Air	23.075	ND		75-125			U
Dilution Check (B4I2407-SRL1)			**Source: 4092329-04**		Prepared & Analyzed: 09/24/24					
Antimony	ND	0.197	ng/m³ Air		ND				10	SL, U
Arsenic	0.270	0.0478	ng/m³ Air		0.275			1.73	10	
Barium	6.03	5.46	ng/m³ Air		6.13			1.55	10	
Beryllium	ND	0.0163	ng/m³ Air		ND				10	U
Cadmium	ND	0.378	ng/m³ Air		ND				10	U
Chromium	ND	11.3	ng/m³ Air		ND				10	U
Cobalt	0.379	0.223	ng/m³ Air		0.378			0.203	10	
Copper	39.1	13.4	ng/m³ Air		38.6			1.31	10	
Lead	ND	1.09	ng/m³ Air		ND				10	U
Manganese	11.3	9.65	ng/m³ Air		11.2			0.906	10	
Molybdenum	1.93	1.83	ng/m³ Air		1.96			1.59	10	
Nickel	ND	3.33	ng/m³ Air		ND				10	U
Selenium	0.243	0.0457	ng/m³ Air		0.233			4.08	10	
Thallium	ND	0.00301	ng/m³ Air		ND				10	U
Vanadium	1.04	0.270	ng/m³ Air		1.09			4.08	10	
Zinc	ND	392	ng/m³ Air		ND				10	U
Dilution Check (B4I2407-SRL2)			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Antimony	ND	0.161	ng/m³ Air		ND				10	SL, U
Arsenic	0.280	0.0391	ng/m³ Air		0.282			0.729	10	
Barium	ND	4.46	ng/m³ Air		ND				10	U
Beryllium	ND	0.0133	ng/m³ Air		ND				10	U
Cadmium	ND	0.309	ng/m³ Air		ND				10	U
Chromium	ND	9.22	ng/m³ Air		ND				10	U
Cobalt	0.315	0.182	ng/m³ Air		0.317			0.470	10	
Copper	46.0	11.0	ng/m³ Air		46.5			1.06	10	
Lead	0.912	0.893	ng/m³ Air		0.948			3.85	10	
Manganese	10.2	7.88	ng/m³ Air		10.3			0.846	10	

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Dilution Check (B4I2407-SRL2) Continued			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Molybdenum	1.54	1.50	ng/m³ Air		1.57			2.04	10	
Nickel	ND	2.72	ng/m³ Air		ND				10	U
Selenium	0.224	0.0374	ng/m³ Air		0.248			10.2	10	SRD-01
Thallium	0.00246	0.00246	ng/m³ Air		ND			97.9	10	
Vanadium	1.07	0.221	ng/m³ Air		1.13			5.48	10	
Zinc	ND	320	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/04/2024 and Shanna Vasser 10/02/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/12/2024 – 09/18/2024
Report No: 4092329

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for antimony, arsenic, barium, and copper in MFL-FB01-091724-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

September 19 through September 25, 2024
[Report Updated: November 22, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from September 19 through September 25, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from September 19 through September 25 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of instances of equipment faults, as described below:

- Because of equipment faults, there was one day where the air monitoring period was interrupted as described below:
    - On September 19, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 23 hours

The equipment fault code was the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption resulted in a shortened monitoring duration which may have influenced the 24-hour time weighted average (TWA) calculation for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. The laboratory was unable to analyze two of the 28 samples during this reporting period. The sample collected at WW Pump Station #4 on September 23 was not analyzed because of non-uniform particulate deposition. The lab recommended indirect preparation of that sample in order to analyze it. Indirect preparation uses heat and acid to remove organic and carbonate material from the filter. Then aliquots of the residue are filtered into a new analytical filter to control the loading of the sample. The sample collected at WW Pump Station #4 on September 24 was not analyzed because it was overloaded with approximately 40% particulate. The lab recommended indirect preparation to analyze that sample as well. Discussion between Tetra Tech and HDOH will take place to determine the next steps for these two samples. This report will be updated if it is decided that the lab is to complete the indirect preparations for the analyses. With the exception of these two samples, all analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

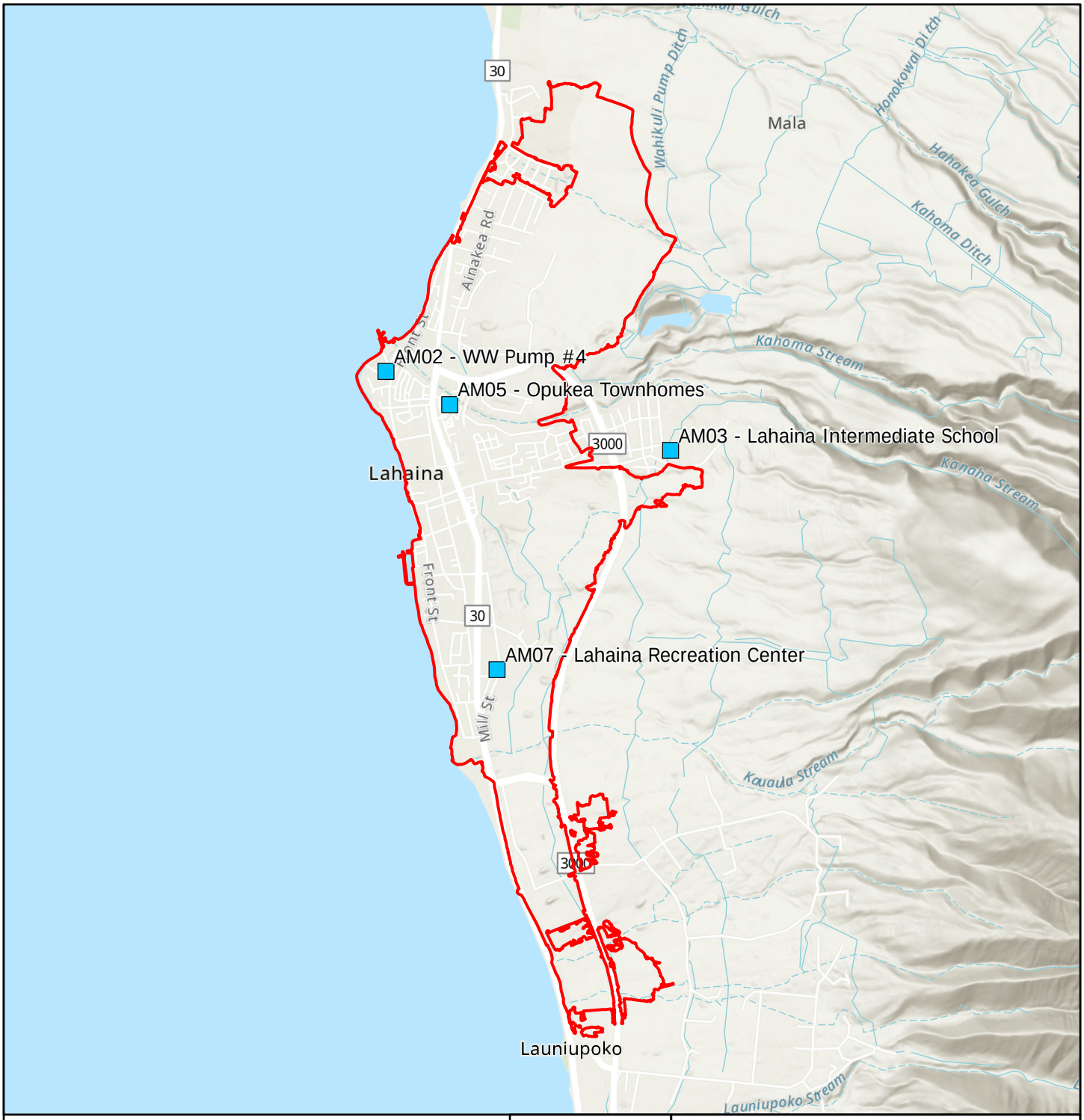
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
September 19 through September 25, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/19/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	6.8*
	Lahaina Intermediate School (AM-03)	46
	Lahaina Recreation Center (AM-07)	6.2
9/20/2024	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	142
	Lahaina Recreation Center (AM-07)	95
9/21/2024	Opukea Townhomes (AM-05)	6.4
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	48
	Lahaina Recreation Center (AM-07)	4.2
9/22/2024	Opukea Townhomes (AM-05)	6.8
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	39
	Lahaina Recreation Center (AM-07)	4.3
9/23/2024	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	40
	Lahaina Recreation Center (AM-07)	95
9/24/2024	Opukea Townhomes (AM-05)	9.6
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	47
	Lahaina Recreation Center (AM-07)	6.8
9/25/2024	Opukea Townhomes (AM-05)	6.3
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	40
	Lahaina Recreation Center (AM-07)	92

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided were from a reduced TWA calculation because of an equipment disruption
Results from Opukea Townhomes on 9/24 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 19 through September 25, 2024
[Report Updated: November 22, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000906	0.000193	0.00326	0.00000844	ND	ND	0.000274	0.0467	0.000444	0.00918	0.00251	0.00107	0.000178	0.000000776	0.00119	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000119	0.000250	0.00456	0.0000147	ND	0.00222	0.000463	0.0470	0.000705	0.0149	0.00180	0.00142	0.000205	0.000000988	0.00180	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000496	0.000143	0.00278	0.0000163	ND	0.00227	0.000397	0.0673	0.000429	0.0112	0.00228	0.00229	0.000156	0.000000862	0.00117	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000967	0.000410	0.00420	0.0000326	ND	0.0220	0.000885	0.0334	0.000418	0.0294	0.00212	0.0103	0.000238	0.00000151	0.00207	ND
9/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000107	0.000238	0.00415	0.0000114	ND	0.00257	0.000463	0.0461	0.000468	0.0131	0.00256	0.00151	0.000166	0.000000853	0.00164	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000110	0.000240	0.00371	0.0000112	0.0000798	0.00242	0.000390	0.0357	0.000664	0.0119	0.00176	0.00130	0.000179	0.000000852	0.00149	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000412	0.000103	0.00208	0.0000130	ND	ND	0.000260	0.0472	0.000187	0.00718	0.00171	0.00117	0.000103	0.000000525	0.000719	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000143	0.000369	0.00423	0.0000382	ND	0.00751	0.000808	0.0181	0.000379	0.0280	0.00103	0.00353	0.000175	0.00000134	0.00209	ND
9/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000932	0.000153	0.00320	0.00000788	ND	ND	0.000272	0.0558	0.000320	0.00795	0.00184	0.00115	0.000167	0.000000605	0.000980	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000154	0.000251	0.00383	0.0000100	ND	0.00187	0.000297	0.0231	0.000567	0.00965	0.000914	0.00111	0.000178	0.000000830	0.00110	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000684	0.000154	0.00323	0.0000242	ND	0.00272	0.000412	0.0378	0.000216	0.0103	0.00166	0.00150	0.000147	0.000000707	0.00117	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000712	0.000367	0.00233	0.00000839	ND	0.00201	0.000248	0.0304	0.000193	0.00805	0.00109	0.00100	0.000134	0.000000672	0.000775	ND
9/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000978	0.000168	0.00249	0.00000534	ND	ND	0.000196	0.0533	0.000406	0.00581	0.00161	0.000856	0.000136	0.000000703	0.000641	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000924	0.000202	0.00353	0.00000855	ND	0.00258	0.000278	0.0210	0.000570	0.00805	0.00105	0.00109	0.000154	0.000000823	0.000873	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000130	0.00209	0.0000208	ND	0.00290	0.000339	0.0265	0.000324	0.00839	0.00167	0.00110	0.000103	0.000000715	0.000880	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000589	0.00130	0.00264	0.0000140	ND	0.00367	0.000452	0.0267	0.000447	0.0135	0.00131	0.00145	0.000140	0.00000100	0.00119	ND
9/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000597	0.000182	0.00243	0.00000616	ND	0.00231	0.000225	0.0488	0.000588	0.00582	0.00183	0.000948	0.000160	0.00000100	0.000883	ND
	WW Pump Station #4 (AM-02)		0.000115	0.000202	0.00448	0.0000109	ND	0.00393	0.000389	0.0225	0.000663	0.0110	0.00136	0.00131	0.000198	0.00000129	0.00141	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000133	0.00197	0.0000133	ND	0.00233	0.000267	0.0358	0.000320	0.00685	0.00190	0.000975	0.000135	0.000000888	0.000811	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000837	0.000532	0.00513	0.0000500	ND	0.00502	0.00111	0.0267	0.000608	0.0409	0.00152	0.00277	0.000276	0.00000239	0.00284	ND
9/24/2024	Opukea Townhomes (AM-05)	<0.0027	0.0000586	0.000174	0.00268	0.00000663	ND	0.00245	0.000231	0.0552	0.000576	0.00676	0.00234	0.000939	0.000207	0.00000102	0.00105	ND
	WW Pump Station #4 (AM-02)		0.000105	0.000359	0.00573	0.0000167	ND	0.00293	0.000496	0.0196	0.00153	0.0160	0.00102	0.00152	0.000208	0.00000118	0.00179	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000626	0.000194	0.00355	0.0000360	ND	0.00351	0.000691	0.0676	0.000405	0.0182	0.00265	0.00195	0.000222	0.00000136	0.00173	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000598	0.000333	0.00322	0.0000207	ND	0.01640	0.000721	0.0205	0.000372	0.0208	0.00153	0.00700	0.000214	0.00000135	0.00176	ND
9/25/2024	Opukea Townhomes (AM-05)	<0.0027	0.0000541	0.000196	0.00334	0.00000916	ND	0.00246	0.000308	0.0527	0.000727	0.00938	0.00230	0.000945	0.000188	0.000000620	0.00112	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000260	0.00564	0.0000145	ND	0.00287	0.000451	0.0223	0.000929	0.0141	0.00138	0.00124	0.000228	0.000000910	0.00161	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000330	0.000153	0.00295	0.0000235	ND	0.00327	0.000471	0.0476	0.000289	0.0125	0.00269	0.00171	0.000183	0.000000911	0.00125	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000505	0.000152	0.00229	0.00000893	ND	0.00863	0.000411	0.0233	0.000246	0.0109	0.00177	0.00387	0.000168	0.000000728	0.000961	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000320	0.00380	0.0000210	NA	0.00570	0.000510	0.0439	0.000590	0.0156	0.00192	0.00243	0.000190	0.00000110	0.0015	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Asbestos Sample not analyized by lab. See report for details

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 19 through September 25, 2024
[Report Updated: November 22, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
9/19/2024	AM-02	WW Pump Station #4	1.0	SSE	82	66	762.3
9/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	752.9
9/19/2024	AM-05	Opukea Townhomes	1.3	SE	84	63	761.8
9/19/2024	AM-07	Lahaina Recreational Center	1.4	SSE	80	68	761.6
9/20/2024	AM-02	WW Pump Station #4	1.0	S	82	66	761.9
9/20/2024	AM-03	Lahaina Intermediate School	1.0	SE	80	64	752.5
9/20/2024	AM-05	Opukea Townhomes	1.1	SE	84	63	761.4
9/20/2024	AM-07	Lahaina Recreational Center	1.2	S	80	68	761.2
9/21/2024	AM-02	WW Pump Station #4	1.0	SSE	81	62	761.7
9/21/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	60	752.3
9/21/2024	AM-05	Opukea Townhomes	1.2	SE	84	59	761.2
9/21/2024	AM-07	Lahaina Recreational Center	1.4	SSE	81	63	761.0
9/22/2024	AM-02	WW Pump Station #4	0.9	S	81	64	761.3
9/22/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	62	751.9
9/22/2024	AM-05	Opukea Townhomes	1.1	SE	83	60	760.7
9/22/2024	AM-07	Lahaina Recreational Center	1.4	SE	79	65	760.6
9/23/2024	AM-02	WW Pump Station #4	1.0	SSE	81	66	761.2
9/23/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	64	751.8
9/23/2024	AM-05	Opukea Townhomes	1.2	SE	83	63	760.7
9/23/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	70	760.5
9/24/2024	AM-02	WW Pump Station #4	1.0	SSE	82	67	762.1
9/24/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	65	752.7
9/24/2024	AM-05	Opukea Townhomes	1.1	SSE	84	64	761.5
9/24/2024	AM-07	Lahaina Recreational Center	1.3	SE	80	68	761.4
9/25/2024	AM-02	WW Pump Station #4	1.1	SSE	81	66	762.6
9/25/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	753.3
9/25/2024	AM-05	Opukea Townhomes	1.2	SSE	84	63	762.1
9/25/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	67	761.9

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/27/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091924-AB**		**Sample Description:**	**DL274988**
EMSL Sample Number:	042419874-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0001 **Customer Sample:** MFL-AM05-091924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J4	None Detected									
B2	G4	None Detected									
B2	A6	None Detected									
B3	D8	None Detected									
B3	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/27/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091924-AB**		**Sample Description:**	**DL274928**
EMSL Sample Number:	042419874-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0002 **Customer Sample:** MFL-AM02-091924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J4	None Detected									
B5	D6	None Detected									
B5	A4	None Detected									
B6	H3	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091924-AB**		**Sample Description:**	**DL274941**
EMSL Sample Number:	042419874-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0003 **Customer Sample:** MFL-AM03-091924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	C10	None Detected									
C2	F7	None Detected									
C2	J10	None Detected									
C3	J1	None Detected									
C3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091924-AB**		**Sample Description:**	**DL274864**
EMSL Sample Number:	042419874-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7293.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0004 **Customer Sample:** MFL-AM07-091924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J4	None Detected									
C5	E8	None Detected									
C5	C5	None Detected									
C6	H8	None Detected									
C6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091924-AB** **Sample Description:** **DL274926**

EMSL Sample Number:	042419874-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0005 **Customer Sample:** MFL-FB01-091924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A6	None Detected									
D2	C8	None Detected									
D2	E4	None Detected									
D2	G6	None Detected									
D2	H5	None Detected									
D3	J4	None Detected									
D3	H3	None Detected									
D3	F7	None Detected									
D3	D5	None Detected									
D3	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092024-AB**		**Sample Description:**	**DL274959**
EMSL Sample Number:	042419874-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0006 **Customer Sample:** MFL-AM05-092024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I4	None Detected									
D5	F2	None Detected									
D5	C4	None Detected									
D6	G4	None Detected									
D6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092024-AB**		**Sample Description:**	**DL274905**
EMSL Sample Number:	042419874-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7261.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0007 **Customer Sample:** MFL-AM02-092024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I6	None Detected									
E2	F7	None Detected									
E2	B4	None Detected									
E3	C9	None Detected									
E3	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092024-AB**		**Sample Description:**	**DL274921**
EMSL Sample Number:	042419874-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0008 **Customer Sample:** MFL-AM03-092024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C7	None Detected									
E5	F8	None Detected									
E5	H9	None Detected									
E6	C10	None Detected									
E6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092024-AB**		**Sample Description:**	**DL274862**
EMSL Sample Number:	042419874-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4770.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0009 **Customer Sample:** MFL-AM07-092024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	D4	None Detected									
F1	F7	None Detected									
F1	H5	None Detected									
F2	C6	None Detected									
F2	E8	None Detected									
F2	H6	None Detected									
F2	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092024-AB** **Sample Description:** **DL274936**

EMSL Sample Number:	042419874-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0010 **Customer Sample:** MFL-FB01-092024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C10	None Detected									
F5	E7	None Detected									
F5	G10	None Detected									
F5	I6	None Detected									
F6	J2	None Detected									
F6	H1	None Detected									
F6	D2	None Detected									
F6	B1	None Detected									
F6	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-092124-AB** **Sample Description: DL274925**

EMSL Sample Number:	042419874-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0011 **Customer Sample:** MFL-AM05-092124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J4	None Detected									
G2	G7	None Detected									
G2	D1	None Detected									
G3	A9	None Detected									
G3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092124-AB**		**Sample Description:**	**DL274965**
EMSL Sample Number:	042419874-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0012 **Customer Sample:** MFL-AM02-092124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A6	None Detected									
G5	C9	None Detected									
G5	E4	None Detected									
G6	H6	None Detected									
G6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
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Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-092124-AB** **Sample Description: D274963**

EMSL Sample Number:	042419874-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0013 **Customer Sample:** MFL-AM03-092124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	I4	None Detected									
H2	F1	None Detected									
H2	D4	None Detected									
H3	D7	None Detected									
H3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092124-AB**		**Sample Description:**	**DL275075**
EMSL Sample Number:	042419874-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7151.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0014 **Customer Sample:** MFL-AM07-092124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	C10	None Detected									
H5	E9	None Detected									
H5	H5	None Detected									
H6	H3	None Detected									
H6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092124-AB** **Sample Description:** **DL274948**

EMSL Sample Number:	042419874-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0015 **Customer Sample:** MFL-FB01-092124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J2	None Detected									
I2	H5	None Detected									
I2	F8	None Detected									
I2	D4	None Detected									
I2	B1	None Detected									
I3	J7	None Detected									
I3	H1	None Detected									
I3	F2	None Detected									
I3	D4	None Detected									
I3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092224-AB**		**Sample Description:**	**DL274880**
EMSL Sample Number:	042419874-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7112.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0016 **Customer Sample:** MFL-AM05-092224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J6	None Detected									
I5	G4	None Detected									
I5	D5	None Detected									
I6	A6	None Detected									
I6	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092224-AB**		**Sample Description:**	**DL274910**
EMSL Sample Number:	042419874-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7154.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0017 **Customer Sample:** MFL-AM02-092224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J7	None Detected									
J2	G5	None Detected									
J2	D7	None Detected									
J3	I6	None Detected									
J3	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092224-AB**		**Sample Description:**	**DL275015**
EMSL Sample Number:	042419874-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7233.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0018 **Customer Sample:** MFL-AM03-092224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I7	None Detected									
J5	G4	None Detected									
J5	C8	None Detected									
J6	A6	None Detected									
J6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092224-AB**		**Sample Description:**	**DL274874**
EMSL Sample Number:	042419874-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0019 **Customer Sample:** MFL-AM07-092224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A4	None Detected									
K2	F2	None Detected									
K2	H5	None Detected									
K3	A8	None Detected									
K3	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/30/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092224-AB** **Sample Description:** **DL274987**

EMSL Sample Number:	042419874-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0020 **Customer Sample:** MFL-FB01-092224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A7	None Detected									
K5	C6	None Detected									
K5	E3	None Detected									
K5	G5	None Detected									
K5	I3	None Detected									
K6	J5	None Detected									
K6	H3	None Detected									
K6	F4	None Detected									
K6	D1	None Detected									
K6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419874
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/25/2024 09:40 AM
Analysis Date:	09/27/2024
Report Date:	10/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042419874-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042419874
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419874-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J5	None Detected									
A2	H7	None Detected									
A2	F9	None Detected									
A2	D6	None Detected									
A2	B8	None Detected									
A3	J9	None Detected									
A3	H7	None Detected									
A3	F8	None Detected									
A3	D6	None Detected									
A3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042419874

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419874

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsbtab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 25 AM 10:49

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Morgan Sullivan
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-091924-AB	DL274988	7,174.470	09/19/24 1102
MFL-AM02-091924-AB	DL274928	7,177.528	09/19/24 1120
MFL-AM03-091924-AB	DL274941	7,162.005	09/19/24 1300
MFL-AM07-091924-AB	DL274864	7,293.893	09/19/24 1339
MFL-FB01-091924-AB	DL274926	0	09/19/24 1200
MFL-AM05-092024-AB	DL274959	7,155.829	09/20/24 1057
MFL-AM02-092024-AB	DL274905	7,261.720	09/20/24 1132
MFL-AM03-092024-AB	DL274921	7,175.574	09/20/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/23/24 1100	Received by: FedEx	Date/Time 9/25/24 9:40 AM
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20

OrderID: 042419874

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419874

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* NOTE: Low volume collected due to pump blockage failure. Contact Chelsea Suber before opening more grids.

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
* MFL-AM07-092024-AB	DL274862	4,770.727	09/20/24 ~~1312~~ 1347 (EKS)
MFL-FB01-092024-AB	DL274936	0	09/20/24 1200
MFL-AM05-092124-AB	DL274925	7,230.552	09/21/24 1101
MFL-AM02-092124-AB	DL274965	7,109.994	09/21/24 1115
MFL-AM03-092124-AB	DL274963	7,199.461	09/21/24 1259
MFL-AM07-092124-AB	DL275075	7,151.098	09/21/24 1322
MFL-FB01-092124-AB	DL274848 (EKS)	0	09/21/24 1200
MFL-AM05-092224-AB	DL274880 (EKS)	7,112.213	09/22/24 1056
MFL-AM02-092224-AB	DL274910	7,154.539	09/22/24 1111
MFL-AM03-092224-AB	DL275015	7,233.244	09/22/24 1304
MFL-AM07-092224-AB	DL274874	7,245.636	09/22/24 1326
MFL-FB01-092224-AB	DL274987	0	09/22/24 1200

Method of Shipment:	FED EX		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 09/23/24 1100	Received by: FedEx	Date/Time	9/25/24 9:40A
Relinquished by:		Date/Time:	Received by:	Date/Time	

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 25 AM 10:49

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/01/2024 and Shanna Vasser 10/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/19/2024 – 09/22/2024
Report No: 42419874

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092324-AB**		**Sample Description:**	**DL274881**
EMSL Sample Number:	042420192-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0001 **Customer Sample:** MFL-AM05-092324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B8	None Detected									
C5	D10	None Detected									
C5	G7	None Detected									
C6	C8	None Detected									
C6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	N/A
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092324-AB**	**Sample Description:**	**DL274856**
EMSL Sample Number:	042420192-0002	Sample Matrix:	Air
Magnification used for fiber counting:	N/A	Volume (L) :	7193.4
Aspect ratio for fiber definition:	N/A	Area of original collection filter (mm^2):	385
Minimum Length (µm):	N/A	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	Grid Openings Analyzed:	N/A
Minimum Level of analysis (chrysotile):	CD	Analyst:	N/A
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	N/A		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**Not Analyzed**	**Limit of Detection (Structures/cc):**	**Not Analyzed**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**Not Analyzed**					
Total Amphibole	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures	**-**	**Not Analyzed**					

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**Not Analyzed**					
Total Amphibole (PCMe)	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures (PCMe)	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures (PCMe)	**-**	**Not Analyzed**					

Comment

Sample not analyzed due to non-uniform particulate deposition. Asbestos fibers present recommend Indirect Preparation.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092324-AB**		**Sample Description:**	**DL274877**
EMSL Sample Number:	042420192-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7224.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0003 **Customer Sample:** MFL-AM03-092324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A3	None Detected									
D5	D1	None Detected									
D5	J6	None Detected									
D6	C3	None Detected									
D6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092324-AB**		**Sample Description:**	**DL275142**
EMSL Sample Number:	042420192-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0004 **Customer Sample:** MFL-AM07-092324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B5	None Detected									
E2	E7	None Detected									
E2	H2	None Detected									
E3	C8	None Detected									
E3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092324-AB** **Sample Description: DL274968**

EMSL Sample Number:	042420192-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0005 **Customer Sample:** MFL-FB01-092324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A2	None Detected									
E5	C9	None Detected									
E5	E7	None Detected									
E5	F9	None Detected									
E5	H5	None Detected									
E6	J3	None Detected									
E6	H5	None Detected									
E6	F1	None Detected									
E6	D3	None Detected									
E6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092424-AB**		**Sample Description:**	**DL274887**
EMSL Sample Number:	042420192-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7087.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0006 **Customer Sample:** MFL-AM05-092424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	I5	None Detected									
F2	G8	None Detected									
F2	C4	None Detected									
F3	B5	None Detected									
F3	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	N/A
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092424-AB**	**Sample Description:**	**DL274861**
EMSL Sample Number:	042420192-0007	Sample Matrix:	Air
Magnification used for fiber counting:	N/A	Volume (L) :	7140.1
Aspect ratio for fiber definition:	N/A	Area of original collection filter (mm^2):	385
Minimum Length (µm):	N/A	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	Grid Openings Analyzed:	N/A
Minimum Level of analysis (chrysotile):	CD	Analyst:	N/A
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	40		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**Not Analyzed**	**Limit of Detection (Structures/cc):**	**Not Analyzed**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**Not Analyzed**					
Total Amphibole	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures	**-**	**Not Analyzed**					

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**Not Analyzed**					
Total Amphibole (PCMe)	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures (PCMe)	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures (PCMe)	**-**	**Not Analyzed**					

Comment

Sample overloaded at ~40% particulate

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092424-AB**		**Sample Description:**	**DL274957**
EMSL Sample Number:	042420192-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0008 **Customer Sample:** MFL-AM03-092424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B7	None Detected									
G2	D4	None Detected									
G2	G7	None Detected									
G3	B6	None Detected									
G3	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092424-AB**		**Sample Description:**	**DL274867**
EMSL Sample Number:	042420192-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0009 **Customer Sample:** MFL-AM07-092424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	C10	None Detected									
G5	G7	None Detected									
G5	J7	None Detected									
G6	G4	None Detected									
G6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092424-AB** **Sample Description:** **DL274872**

EMSL Sample Number:	042420192-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0010 **Customer Sample:** MFL-FB01-092424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A6	None Detected									
H2	C10	None Detected									
H2	E3	None Detected									
H2	G8	None Detected									
H2	I9	None Detected									
H3	A3	None Detected									
H3	C10	None Detected									
H3	E8	None Detected									
H3	G9	None Detected									
H3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092524-AB**		**Sample Description:**	**DL275058**
EMSL Sample Number:	042420192-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7132.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0011 **Customer Sample:** MFL-AM05-092524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A8	None Detected									
H5	E7	None Detected									
H5	H5	None Detected									
H6	C7	None Detected									
H6	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092524-AB**		**Sample Description:**	**DL275116**
EMSL Sample Number:	042420192-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0012 **Customer Sample:** MFL-AM02-092524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A8	None Detected									
I2	G6	None Detected									
I2	J7	None Detected									
I3	B9	None Detected									
I3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092524-AB**		**Sample Description:**	**DL274912**
EMSL Sample Number:	042420192-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042420192**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0013 **Customer Sample:** MFL-AM03-092524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I6	A5	None Detected									
I6	D3	None Detected									
I6	G6	None Detected									
I7	I3	None Detected									
I7	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092524-AB**		**Sample Description:**	**DL275062**
EMSL Sample Number:	042420192-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7292.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0014 **Customer Sample:** MFL-AM07-092524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J4	None Detected									
J2	G8	None Detected									
J2	C6	None Detected									
J3	H5	None Detected									
J3	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-092524-AB** **Sample Description: DL274914**

EMSL Sample Number:	042420192-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0015 **Customer Sample:** MFL-FB01-092524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A1	None Detected									
J5	C4	None Detected									
J5	E3	None Detected									
J5	G4	None Detected									
J5	I4	None Detected									
J6	J10	None Detected									
J6	H6	None Detected									
J6	F8	None Detected									
J6	D8	None Detected									
J6	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420192
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/30/2024 09:00 AM
Analysis Date:	10/01/2024
Report Date:	10/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042420192-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420192
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420192-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J4	None Detected									
C2	H2	None Detected									
C2	F4	None Detected									
C2	D6	None Detected									
C2	B3	None Detected									
C3	J5	None Detected									
C3	H6	None Detected									
C3	F2	None Detected									
C3	D5	None Detected									
C3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042420192

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042420192

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	E. Kurzyn Saldana
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

RECEIVED EMSL CINNAMINSON, NJ SEP 30 AM 9:18 24

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-092324-AB	DL274881	7,244.190	09/23/24 1103
MFL-AM02-092324-AB	DL274856	7,193.354	09/23/24 1118
MFL-AM03-092324-AB	DL274877	7,224.132	09/23/24 1304
MFL-AM07-092324-AB	DL275142	7,186.045	09/23/24 1326
MFL-FB01-092324-AB	DL274968	0	09/23/24 1200
MFL-AM05-092424-AB	DL274887	7,087.053	09/24/24 1052
MFL-AM02-092424-AB	DL274861	7,140.137	09/24/24 1108
MFL-AM03-092424-AB	DL274957	7,159.698	09/24/24 1259

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM02-092324-AB not able to be analyzed due to non-uniform particulate distribution. MFL-AM02-092424-AB not able to be analyzed due to overloaded filter. All other samples received acceptable for analysis.l

Method of Shipment:	FED EX	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 09/26/24 1100	Received by: FedEx
Date/Time: 9/30/24 am			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

15 pp

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042420192

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-092424-AB	DL274867	7,163.710	09/24/24 1327
MFL-FB01-092424-AB	DL274872	0	09/24/24 1200
MFL-AM05-092524-AB	DL275058	7,132.218	09/25/24 1057
MFL-AM02-092524-AB	DL275116	7,194.528	09/25/24 1111
MFL-AM03-092524-AB	DL274912	7,207.975	09/25/24 1303
MFL-AM07-092524-AB	DL275062	7,292.482	09/25/24 1327
MFL-FB01-092524-AB	DL274914	0	09/25/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP 30 AM 9:48

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/26/24 1100	Received by: FEDEX	Date/Time 9/30/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/04/2024 and Shanna Vasser 10/07/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/23/2024 – 09/25/2024
Report No: 42420192

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes:

2. MFL-AM02-092324-AB could not be analyzed due to non-uniform particulate distribution. MFL-AM02-092424-AB could not be analyzed due to filter overload. All other samples were received acceptable for analysis.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 08, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 09/30/24 13:19.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-091924-HM	4093027-01	Air	09/19/24 23:59	09/30/24 13:19
MFL-AM02-091924-HM	4093027-02	Air	09/19/24 23:59	09/30/24 13:19
MFL-AM03-091924-HM	4093027-03	Air	09/19/24 23:59	09/30/24 13:19
MFL-AM07-091924-HM	4093027-04	Air	09/19/24 23:59	09/30/24 13:19
MFL-FB01-091924-HM	4093027-05	Air	09/19/24 00:00	09/30/24 13:19
MFL-AM05-092024-HM	4093027-06	Air	09/20/24 23:59	09/30/24 13:19
MFL-AM02-092024-HM	4093027-07	Air	09/20/24 23:59	09/30/24 13:19
MFL-AM03-092024-HM	4093027-08	Air	09/20/24 23:59	09/30/24 13:19
MFL-AM07-092024-HM	4093027-09	Air	09/20/24 23:59	09/30/24 13:19
MFL-AM05-092124-HM	4093027-10	Air	09/21/24 23:59	09/30/24 13:19
MFL-AM02-092124-HM	4093027-11	Air	09/21/24 23:59	09/30/24 13:19
MFL-AM03-092124-HM	4093027-12	Air	09/21/24 23:59	09/30/24 13:19
MFL-AM07-092124-HM	4093027-13	Air	09/21/24 23:59	09/30/24 13:19
MFL-FB01-092124-HM	4093027-14	Air	09/21/24 00:00	09/30/24 13:19
MFL-AM05-092224-HM	4093027-15	Air	09/22/24 23:59	09/30/24 13:19
MFL-AM02-092224-HM	4093027-16	Air	09/22/24 23:59	09/30/24 13:19
MFL-AM03-092224-HM	4093027-17	Air	09/22/24 23:59	09/30/24 13:19
MFL-AM07-092224-HM	4093027-18	Air	09/22/24 23:59	09/30/24 13:19
MFL-LB01-092224-HM	4093027-19	Air	09/22/24 00:00	09/30/24 13:19
MFL-AM05-092324-HM	4093027-20	Air	09/23/24 23:59	09/30/24 13:19
MFL-AM02-092324-HM	4093027-21	Air	09/23/24 23:59	09/30/24 13:19

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-092324-HM	4093027-22	Air	09/23/24 23:59	09/30/24 13:19
MFL-AM07-092324-HM	4093027-23	Air	09/23/24 23:59	09/30/24 13:19
MFL-FB01-092324-HM	4093027-24	Air	09/23/24 00:00	09/30/24 13:19
MFL-AM05-092424-HM	4093027-25	Air	09/24/24 23:59	09/30/24 13:19
MFL-AM02-092424-HM	4093027-26	Air	09/24/24 23:59	09/30/24 13:19
MFL-AM03-092424-HM	4093027-27	Air	09/24/24 23:59	09/30/24 13:19
MFL-AM07-092424-HM	4093027-28	Air	09/24/24 23:59	09/30/24 13:19
MFL-AM05-092524-HM	4093027-29	Air	09/25/24 23:59	09/30/24 13:19
MFL-AM02-092524-HM	4093027-30	Air	09/25/24 23:59	09/30/24 13:19
MFL-AM03-092524-HM	4093027-31	Air	09/25/24 23:59	09/30/24 13:19
MFL-AM07-092524-HM	4093027-32	Air	09/25/24 23:59	09/30/24 13:19
MFL-FB01-092524-HM	4093027-33	Air	09/25/24 00:00	09/30/24 13:19

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091924-HM
Matrix: Air
Lab ID: 4093027-01
Sample Volume: 1923.099 m³
Filter ID:
Sampled: 09/19/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 00:29

Comments: Q8518482 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0906**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.193**		**0.00793**
Barium	**7440-39-3**	**3.26**		**0.905**
Beryllium	**7440-41-7**	**0.00844**		**0.00271**
Cadmium	7440-43-9	0.0230	U	0.0627
Chromium	7440-47-3	1.80	U	1.87
Cobalt	**7440-48-4**	**0.274**		**0.0369**
Copper	**7440-50-8**	**46.7**		**2.23**
Lead	**7439-92-1**	**0.444**		**0.181**
Manganese	**7439-96-5**	**9.18**		**1.60**
Molybdenum	**7439-98-7**	**2.51**		**0.304**
Nickel	**7440-02-0**	**1.07**		**0.552**
Selenium	**7782-49-2**	**0.178**		**0.00758**
Thallium	**7440-28-0**	**7.76E-4**		**4.98E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0448**
Zinc	7440-66-6	10.6	U	65.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091924-HM
Matrix: Air
Lab ID: 4093027-02
Sample Volume: 2065.905 m³
Filter ID:
Sampled: 09/19/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 00:43

Comments: Q8518481 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.250**		**0.00738**
Barium	**7440-39-3**	**4.56**		**0.843**
Beryllium	**7440-41-7**	**0.0147**		**0.00252**
Cadmium	7440-43-9	0.0123	U	0.0584
Chromium	**7440-47-3**	**2.22**		**1.74**
Cobalt	**7440-48-4**	**0.463**		**0.0343**
Copper	**7440-50-8**	**47.0**		**2.07**
Lead	**7439-92-1**	**0.705**		**0.169**
Manganese	**7439-96-5**	**14.9**		**1.49**
Molybdenum	**7439-98-7**	**1.80**		**0.283**
Nickel	**7440-02-0**	**1.42**		**0.513**
Selenium	**7782-49-2**	**0.205**		**0.00706**
Thallium	**7440-28-0**	**9.88E-4**		**4.64E-4**
Vanadium	**7440-62-2**	**1.80**		**0.0417**
Zinc	7440-66-6	11.5	U	60.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091924-HM
Matrix: Air
Lab ID: 4093027-03
Sample Volume: 1846.978 m³
Filter ID:
Sampled: 09/19/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 00:59

Comments: Q8518479 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0496**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.143**		**0.00825**
Barium	**7440-39-3**	**2.78**		**0.943**
Beryllium	**7440-41-7**	**0.0163**		**0.00282**
Cadmium	7440-43-9	0.00932	U	0.0653
Chromium	**7440-47-3**	**2.27**		**1.95**
Cobalt	**7440-48-4**	**0.397**		**0.0384**
Copper	**7440-50-8**	**67.3**		**2.32**
Lead	**7439-92-1**	**0.429**		**0.189**
Manganese	**7439-96-5**	**11.2**		**1.66**
Molybdenum	**7439-98-7**	**2.28**		**0.316**
Nickel	**7440-02-0**	**2.29**		**0.574**
Selenium	**7782-49-2**	**0.156**		**0.00789**
Thallium	**7440-28-0**	**8.62E-4**		**5.19E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0466**
Zinc	7440-66-6	14.3	U	67.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091924-HM
Matrix: Air
Lab ID: 4093027-04
Sample Volume: 1927.561 m³
Filter ID:
Sampled: 09/19/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 01:14

Comments: Q8518478 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0967**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.410**		**0.00791**
Barium	**7440-39-3**	**4.20**		**0.903**
Beryllium	**7440-41-7**	**0.0326**		**0.00270**
Cadmium	7440-43-9	0.0191	U	0.0625
Chromium	**7440-47-3**	**22.0**		**1.87**
Cobalt	**7440-48-4**	**0.885**		**0.0368**
Copper	**7440-50-8**	**33.4**		**2.22**
Lead	**7439-92-1**	**0.418**		**0.181**
Manganese	**7439-96-5**	**29.4**		**1.60**
Molybdenum	**7439-98-7**	**2.12**		**0.303**
Nickel	**7440-02-0**	**10.3**		**0.550**
Selenium	**7782-49-2**	**0.238**		**0.00756**
Thallium	**7440-28-0**	**0.00151**		**4.97E-4**
Vanadium	**7440-62-2**	**2.07**		**0.0447**
Zinc	7440-66-6	13.4	U	64.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091924-HM
Matrix: Air
Lab ID: 4093027-05
Sample Volume: 1923.099 m³
Filter ID:
Sampled: 09/19/24 00:00
Received: 09/30/24 13:19
Analysis Date: 10/02/24 01:28

Comments: Q8518477 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0180	SL, U	0.0327
Arsenic	7440-38-2	0.00338	U	0.00793
Barium	7440-39-3	0.801	U	0.905
Beryllium	7440-41-7	5.76E-4	U	0.00271
Cadmium	7440-43-9	7.37E-4	U	0.0627
Chromium	7440-47-3	0.940	U	1.87
Cobalt	7440-48-4	0.0121	U	0.0369
Copper	7440-50-8	1.16	U	2.23
Lead	7439-92-1	0.0228	U	0.181
Manganese	7439-96-5	0.201	U	1.60
Molybdenum	7439-98-7	0.219	U	0.304
Nickel	7440-02-0	0.460	U	0.552
Selenium	7782-49-2	0.00520	U	0.00758
Thallium	7440-28-0	1.05E-4	U	4.98E-4
Vanadium	7440-62-2	0.0188	U	0.0448
Zinc	7440-66-6	3.65	U	65.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092024-HM
Matrix: Air
Lab ID: 4093027-06
Sample Volume: 1844.84 m³
Filter ID:
Sampled: 09/20/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 01:42

Comments: Q8518476 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.238**		**0.00826**
Barium	**7440-39-3**	**4.15**		**0.944**
Beryllium	**7440-41-7**	**0.0114**		**0.00282**
Cadmium	7440-43-9	0.0174	U	0.0654
Chromium	**7440-47-3**	**2.57**		**1.95**
Cobalt	**7440-48-4**	**0.463**		**0.0385**
Copper	**7440-50-8**	**46.1**		**2.32**
Lead	**7439-92-1**	**0.468**		**0.189**
Manganese	**7439-96-5**	**13.1**		**1.67**
Molybdenum	**7439-98-7**	**2.56**		**0.317**
Nickel	**7440-02-0**	**1.51**		**0.575**
Selenium	**7782-49-2**	**0.166**		**0.00790**
Thallium	**7440-28-0**	**8.53E-4**		**5.19E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0467**
Zinc	7440-66-6	11.6	U	67.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092024-HM
Matrix: Air
Lab ID: 4093027-07
Sample Volume: 2017.2 m³
Filter ID:
Sampled: 09/20/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 01:56

Comments: Q8518475 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.240**		**0.00756**
Barium	**7440-39-3**	**3.71**		**0.863**
Beryllium	**7440-41-7**	**0.0112**		**0.00258**
Cadmium	**7440-43-9**	**0.0798**		**0.0598**
Chromium	**7440-47-3**	**2.42**		**1.78**
Cobalt	**7440-48-4**	**0.390**		**0.0352**
Copper	**7440-50-8**	**35.7**		**2.12**
Lead	**7439-92-1**	**0.664**		**0.173**
Manganese	**7439-96-5**	**11.9**		**1.52**
Molybdenum	**7439-98-7**	**1.76**		**0.290**
Nickel	**7440-02-0**	**1.30**		**0.526**
Selenium	**7782-49-2**	**0.179**		**0.00723**
Thallium	**7440-28-0**	**8.52E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0427**
Zinc	7440-66-6	12.6	U	61.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092024-HM
Matrix: Air
Lab ID: 4093027-08
Sample Volume: 1902.79 m³
Filter ID:
Sampled: 09/20/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 02:10

Comments: Q8518473 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0412**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.103**		**0.00801**
Barium	**7440-39-3**	**2.08**		**0.915**
Beryllium	**7440-41-7**	**0.0130**		**0.00274**
Cadmium	7440-43-9	0.0296	U	0.0634
Chromium	7440-47-3	1.76	U	1.89
Cobalt	**7440-48-4**	**0.260**		**0.0373**
Copper	**7440-50-8**	**47.2**		**2.25**
Lead	**7439-92-1**	**0.187**		**0.183**
Manganese	**7439-96-5**	**7.18**		**1.62**
Molybdenum	**7439-98-7**	**1.71**		**0.307**
Nickel	**7440-02-0**	**1.17**		**0.557**
Selenium	**7782-49-2**	**0.103**		**0.00766**
Thallium	**7440-28-0**	**5.25E-4**		**5.04E-4**
Vanadium	**7440-62-2**	**0.719**		**0.0452**
Zinc	7440-66-6	8.12	U	65.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092024-HM
Matrix: Air
Lab ID: 4093027-09
Sample Volume: 1566.004 m³
Filter ID:
Sampled: 09/20/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 02:24

Comments: Q8518471 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.143**	SL	**0.0401**
Arsenic	**7440-38-2**	**0.369**		**0.00973**
Barium	**7440-39-3**	**4.23**		**1.11**
Beryllium	**7440-41-7**	**0.0382**		**0.00332**
Cadmium	7440-43-9	0.0131	U	0.0770
Chromium	**7440-47-3**	**7.51**		**2.30**
Cobalt	**7440-48-4**	**0.808**		**0.0453**
Copper	**7440-50-8**	**18.1**		**2.73**
Lead	**7439-92-1**	**0.379**		**0.222**
Manganese	**7439-96-5**	**28.0**		**1.96**
Molybdenum	**7439-98-7**	**1.03**		**0.373**
Nickel	**7440-02-0**	**3.53**		**0.677**
Selenium	**7782-49-2**	**0.175**		**0.00931**
Thallium	**7440-28-0**	**0.00134**		**6.12E-4**
Vanadium	**7440-62-2**	**2.09**		**0.0550**
Zinc	7440-66-6	11.3	U	79.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092124-HM
Matrix: Air
Lab ID: 4093027-10
Sample Volume: 1901.627 m³
Filter ID:
Sampled: 09/21/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 02:39

Comments: Q8518470 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0932**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.153**		**0.00802**
Barium	**7440-39-3**	**3.20**		**0.915**
Beryllium	**7440-41-7**	**0.00788**		**0.00274**
Cadmium	7440-43-9	0.0157	U	0.0634
Chromium	7440-47-3	1.84	U	1.89
Cobalt	**7440-48-4**	**0.272**		**0.0373**
Copper	**7440-50-8**	**55.8**		**2.25**
Lead	**7439-92-1**	**0.320**		**0.183**
Manganese	**7439-96-5**	**7.95**		**1.62**
Molybdenum	**7439-98-7**	**1.84**		**0.307**
Nickel	**7440-02-0**	**1.15**		**0.558**
Selenium	**7782-49-2**	**0.167**		**0.00767**
Thallium	**7440-28-0**	**6.05E-4**		**5.04E-4**
Vanadium	**7440-62-2**	**0.980**		**0.0453**
Zinc	7440-66-6	10.5	U	65.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092124-HM
Matrix: Air
Lab ID: 4093027-11
Sample Volume: 2005.754 m³
Filter ID:
Sampled: 09/21/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 03:48

Comments: Q8518469 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.154**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.251**		**0.00760**
Barium	**7440-39-3**	**3.83**		**0.868**
Beryllium	**7440-41-7**	**0.0100**		**0.00260**
Cadmium	7440-43-9	0.00804	U	0.0601
Chromium	**7440-47-3**	**1.87**		**1.79**
Cobalt	**7440-48-4**	**0.297**		**0.0354**
Copper	**7440-50-8**	**23.1**		**2.13**
Lead	**7439-92-1**	**0.567**		**0.174**
Manganese	**7439-96-5**	**9.65**		**1.53**
Molybdenum	**7439-98-7**	**0.914**		**0.291**
Nickel	**7440-02-0**	**1.11**		**0.529**
Selenium	**7782-49-2**	**0.178**		**0.00727**
Thallium	**7440-28-0**	**8.30E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0429**
Zinc	7440-66-6	11.3	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092124-HM
Matrix: Air
Lab ID: 4093027-12
Sample Volume: 1888.404 m³
Filter ID:
Sampled: 09/21/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 04:02

Comments: Q8518468 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0684**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.154**		**0.00807**
Barium	**7440-39-3**	**3.23**		**0.922**
Beryllium	**7440-41-7**	**0.0242**		**0.00276**
Cadmium	7440-43-9	0.0119	U	0.0638
Chromium	**7440-47-3**	**2.72**		**1.90**
Cobalt	**7440-48-4**	**0.412**		**0.0376**
Copper	**7440-50-8**	**37.8**		**2.27**
Lead	**7439-92-1**	**0.216**		**0.184**
Manganese	**7439-96-5**	**10.3**		**1.63**
Molybdenum	**7439-98-7**	**1.66**		**0.309**
Nickel	**7440-02-0**	**1.50**		**0.562**
Selenium	**7782-49-2**	**0.147**		**0.00772**
Thallium	**7440-28-0**	**7.07E-4**		**5.07E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0456**
Zinc	7440-66-6	13.9	U	66.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092124-HM
Matrix: Air
Lab ID: 4093027-13
Sample Volume: 1978.144 m³
Filter ID:
Sampled: 09/21/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/01/24 18:43

Comments: Q8518466 MS/MSD - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0712**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.367**		**0.00771**
Barium	**7440-39-3**	**2.33**		**0.880**
Beryllium	**7440-41-7**	**0.00839**		**0.00263**
Cadmium	7440-43-9	0.0110	U	0.0609
Chromium	**7440-47-3**	**2.01**		**1.82**
Cobalt	**7440-48-4**	**0.248**		**0.0359**
Copper	**7440-50-8**	**30.4**	D-F, QM-07	**2.16**
Lead	**7439-92-1**	**0.193**		**0.176**
Manganese	**7439-96-5**	**8.05**		**1.55**
Molybdenum	**7439-98-7**	**1.09**	QM-07	**0.295**
Nickel	**7440-02-0**	**1.00**		**0.536**
Selenium	**7782-49-2**	**0.134**		**0.00737**
Thallium	**7440-28-0**	**6.72E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**0.775**		**0.0435**
Zinc	7440-66-6	9.63	U	63.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-092124-HM
Matrix: Air
Lab ID: 4093027-14
Sample Volume: 1901.627 m³
Filter ID:
Sampled: 09/21/24 00:00
Received: 09/30/24 13:19
Analysis Date: 10/02/24 04:16

Comments: Q8518461 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0218	SL, U	0.0330
Arsenic	7440-38-2	0.00569	U	0.00802
Barium	7440-39-3	0.857	U	0.915
Beryllium	7440-41-7	4.59E-4	U	0.00274
Cadmium	7440-43-9	0.00373	U	0.0634
Chromium	7440-47-3	1.27	U	1.89
Cobalt	7440-48-4	0.0215	U	0.0373
Copper	7440-50-8	0.588	U	2.25
Lead	7439-92-1	0.0589	U	0.183
Manganese	7439-96-5	0.238	U	1.62
Molybdenum	7439-98-7	0.163	U	0.307
Nickel	7440-02-0	0.546	U	0.558
Selenium	7782-49-2	0.00684	U	0.00767
Thallium	7440-28-0	1.07E-4	U	5.04E-4
Vanadium	7440-62-2	0.0244	U	0.0453
Zinc	7440-66-6	5.22	U	65.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092224-HM
Matrix: Air
Lab ID: 4093027-15
Sample Volume: 1999.14 m³
Filter ID:
Sampled: 09/22/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 04:31

Comments: Q8518464 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0978**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.168**		**0.00763**
Barium	**7440-39-3**	**2.49**		**0.871**
Beryllium	**7440-41-7**	**0.00534**		**0.00260**
Cadmium	7440-43-9	0.0147	U	0.0603
Chromium	7440-47-3	1.66	U	1.80
Cobalt	**7440-48-4**	**0.196**		**0.0355**
Copper	**7440-50-8**	**53.3**		**2.14**
Lead	**7439-92-1**	**0.406**		**0.174**
Manganese	**7439-96-5**	**5.81**		**1.54**
Molybdenum	**7439-98-7**	**1.61**		**0.292**
Nickel	**7440-02-0**	**0.856**		**0.531**
Selenium	**7782-49-2**	**0.136**		**0.00729**
Thallium	**7440-28-0**	**7.03E-4**		**4.79E-4**
Vanadium	**7440-62-2**	**0.641**		**0.0431**
Zinc	7440-66-6	10.8	U	62.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092224-HM
Matrix: Air
Lab ID: 4093027-16
Sample Volume: 2089.846 m³
Filter ID:
Sampled: 09/22/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 04:45

Comments: Q9540574 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0924**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.202**		**0.00729**
Barium	**7440-39-3**	**3.53**		**0.833**
Beryllium	**7440-41-7**	**0.00855**		**0.00249**
Cadmium	7440-43-9	0.0117	U	0.0577
Chromium	**7440-47-3**	**2.58**		**1.72**
Cobalt	**7440-48-4**	**0.278**		**0.0339**
Copper	**7440-50-8**	**21.0**		**2.05**
Lead	**7439-92-1**	**0.570**		**0.167**
Manganese	**7439-96-5**	**8.05**		**1.47**
Molybdenum	**7439-98-7**	**1.05**		**0.279**
Nickel	**7440-02-0**	**1.09**		**0.508**
Selenium	**7782-49-2**	**0.154**		**0.00698**
Thallium	**7440-28-0**	**8.23E-4**		**4.59E-4**
Vanadium	**7440-62-2**	**0.873**		**0.0412**
Zinc	7440-66-6	11.9	U	59.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092224-HM
Matrix: Air
Lab ID: 4093027-17
Sample Volume: 1970.337 m³
Filter ID:
Sampled: 09/22/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 05:00

Comments: Q9540573 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0235	SL, U	0.0319
Arsenic	**7440-38-2**	**0.130**		**0.00774**
Barium	**7440-39-3**	**2.09**		**0.884**
Beryllium	**7440-41-7**	**0.0208**		**0.00264**
Cadmium	7440-43-9	0.00710	U	0.0612
Chromium	**7440-47-3**	**2.90**		**1.82**
Cobalt	**7440-48-4**	**0.339**		**0.0360**
Copper	**7440-50-8**	**26.5**		**2.17**
Lead	**7439-92-1**	**0.324**		**0.177**
Manganese	**7439-96-5**	**8.39**		**1.56**
Molybdenum	**7439-98-7**	**1.67**		**0.296**
Nickel	**7440-02-0**	**1.10**		**0.538**
Selenium	**7782-49-2**	**0.103**		**0.00740**
Thallium	**7440-28-0**	**7.15E-4**		**4.86E-4**
Vanadium	**7440-62-2**	**0.880**		**0.0437**
Zinc	7440-66-6	8.84	U	63.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092224-HM
Matrix: Air
Lab ID: 4093027-18
Sample Volume: 2009.517 m³
Filter ID:
Sampled: 09/22/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 05:14

Comments: Q9540572 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0589**	SL	**0.0313**
Arsenic	**7440-38-2**	**1.30**		**0.00759**
Barium	**7440-39-3**	**2.64**		**0.866**
Beryllium	**7440-41-7**	**0.0140**		**0.00259**
Cadmium	7440-43-9	0.0428	U	0.0600
Chromium	**7440-47-3**	**3.67**		**1.79**
Cobalt	**7440-48-4**	**0.452**		**0.0353**
Copper	**7440-50-8**	**26.7**		**2.13**
Lead	**7439-92-1**	**0.447**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.53**
Molybdenum	**7439-98-7**	**1.31**		**0.291**
Nickel	**7440-02-0**	**1.45**		**0.528**
Selenium	**7782-49-2**	**0.140**		**0.00725**
Thallium	**7440-28-0**	**0.00100**		**4.77E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0428**
Zinc	7440-66-6	12.8	U	62.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-092224-HM
Matrix: Air
Lab ID: 4093027-19
Sample Volume: 1999.14 m³
Filter ID:
Sampled: 09/22/24 00:00
Received: 09/30/24 13:19
Analysis Date: 10/02/24 05:28

Comments: Q9540569 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00772	SL, U	0.0314
Arsenic	7440-38-2	0.00605	U	0.00763
Barium	7440-39-3	0.569	U	0.871
Beryllium	7440-41-7	8.46E-4	U	0.00260
Cadmium	7440-43-9	0.00239	U	0.0603
Chromium	7440-47-3	1.42	U	1.80
Cobalt	7440-48-4	0.0299	U	0.0355
Copper	7440-50-8	0.738	U	2.14
Lead	7439-92-1	0.0996	U	0.174
Manganese	7439-96-5	0.218	U	1.54
Molybdenum	7439-98-7	0.246	U	0.292
Nickel	7440-02-0	0.263	U	0.531
Selenium	7782-49-2	0.00513	U	0.00729
Thallium	7440-28-0	5.19E-5	U	4.79E-4
Vanadium	7440-62-2	0.0264	U	0.0431
Zinc	7440-66-6	4.85	U	62.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092324-HM
Matrix: Air
Lab ID: 4093027-20
Sample Volume: 2051.941 m³
Filter ID:
Sampled: 09/23/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/01/24 22:10

Comments: Q9540571 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0597**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.182**		**0.00743**
Barium	**7440-39-3**	**2.43**		**0.848**
Beryllium	**7440-41-7**	**0.00616**		**0.00254**
Cadmium	7440-43-9	0.0177	U	0.0588
Chromium	**7440-47-3**	**2.31**		**1.75**
Cobalt	**7440-48-4**	**0.225**		**0.0346**
Copper	**7440-50-8**	**48.8**	QM-07	**2.09**
Lead	**7439-92-1**	**0.588**		**0.170**
Manganese	**7439-96-5**	**5.82**		**1.50**
Molybdenum	**7439-98-7**	**1.83**	QM-07	**0.285**
Nickel	**7440-02-0**	**0.948**		**0.517**
Selenium	**7782-49-2**	**0.160**		**0.00710**
Thallium	**7440-28-0**	**0.00100**		**4.67E-4**
Vanadium	**7440-62-2**	**0.883**		**0.0419**
Zinc	7440-66-6	11.4	U	60.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092324-HM
Matrix: Air
Lab ID: 4093027-21
Sample Volume: 1949.857 m³
Filter ID:
Sampled: 09/23/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 05:42

Comments: Q9540568 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.202**		**0.00782**
Barium	**7440-39-3**	**4.48**		**0.893**
Beryllium	**7440-41-7**	**0.0109**		**0.00267**
Cadmium	7440-43-9	0.0157	U	0.0618
Chromium	**7440-47-3**	**3.93**		**1.84**
Cobalt	**7440-48-4**	**0.389**		**0.0364**
Copper	**7440-50-8**	**22.5**		**2.19**
Lead	**7439-92-1**	**0.663**		**0.179**
Manganese	**7439-96-5**	**11.0**		**1.58**
Molybdenum	**7439-98-7**	**1.36**		**0.300**
Nickel	**7440-02-0**	**1.31**		**0.544**
Selenium	**7782-49-2**	**0.198**		**0.00748**
Thallium	**7440-28-0**	**0.00129**		**4.91E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0441**
Zinc	7440-66-6	15.3	U	64.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092324-HM
Matrix: Air
Lab ID: 4093027-22
Sample Volume: 2006.006 m³
Filter ID:
Sampled: 09/23/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 05:59

Comments: Q9540567 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0257	SL, U	0.0313
Arsenic	**7440-38-2**	**0.133**		**0.00760**
Barium	**7440-39-3**	**1.97**		**0.868**
Beryllium	**7440-41-7**	**0.0133**		**0.00260**
Cadmium	7440-43-9	0.00905	U	0.0601
Chromium	**7440-47-3**	**2.33**		**1.79**
Cobalt	**7440-48-4**	**0.267**		**0.0354**
Copper	**7440-50-8**	**35.8**		**2.13**
Lead	**7439-92-1**	**0.320**		**0.174**
Manganese	**7439-96-5**	**6.85**		**1.53**
Molybdenum	**7439-98-7**	**1.90**		**0.291**
Nickel	**7440-02-0**	**0.975**		**0.529**
Selenium	**7782-49-2**	**0.135**		**0.00727**
Thallium	**7440-28-0**	**8.88E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**0.811**		**0.0429**
Zinc	7440-66-6	9.19	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092324-HM
Matrix: Air
Lab ID: 4093027-23
Sample Volume: 1993.634 m³
Filter ID:
Sampled: 09/23/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 06:50

Comments: Q9540566 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.532**		**0.00765**
Barium	**7440-39-3**	**5.13**		**0.873**
Beryllium	**7440-41-7**	**0.0500**		**0.00261**
Cadmium	7440-43-9	0.0224	U	0.0605
Chromium	**7440-47-3**	**5.02**		**1.80**
Cobalt	**7440-48-4**	**1.11**		**0.0356**
Copper	**7440-50-8**	**26.7**		**2.15**
Lead	**7439-92-1**	**0.608**		**0.175**
Manganese	**7439-96-5**	**40.9**		**1.54**
Molybdenum	**7439-98-7**	**1.52**		**0.293**
Nickel	**7440-02-0**	**2.77**		**0.532**
Selenium	**7782-49-2**	**0.276**		**0.00731**
Thallium	**7440-28-0**	**0.00239**		**4.81E-4**
Vanadium	**7440-62-2**	**2.84**		**0.0432**
Zinc	7440-66-6	14.3	U	62.7

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-092324-HM
Matrix: Air
Lab ID: 4093027-24
Sample Volume: 2051.941 m³
Filter ID:
Sampled: 09/23/24 00:00
Received: 09/30/24 13:19
Analysis Date: 10/02/24 07:07

Comments: Q9540562 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00692	SL, U	0.0306
Arsenic	7440-38-2	0.00309	U	0.00743
Barium	7440-39-3	0.502	U	0.848
Beryllium	7440-41-7	7.02E-4	U	0.00254
Cadmium	7440-43-9	0.00177	U	0.0588
Chromium	7440-47-3	1.32	U	1.75
Cobalt	7440-48-4	0.0232	U	0.0346
Copper	7440-50-8	0.329	U	2.09
Lead	7439-92-1	0.0467	U	0.170
Manganese	7439-96-5	0.153	U	1.50
Molybdenum	7439-98-7	0.222	U	0.285
Nickel	7440-02-0	0.225	U	0.517
Selenium	7782-49-2	0.00363	U	0.00710
Thallium	7440-28-0	6.41E-5	U	4.67E-4
Vanadium	7440-62-2	0.00637	U	0.0419
Zinc	7440-66-6	3.18	U	60.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092424-HM
Matrix: Air
Lab ID: 4093027-25
Sample Volume: 1969.272 m³
Filter ID:
Sampled: 09/24/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 07:21

Comments: Q9540565 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0586**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.174**		**0.00774**
Barium	**7440-39-3**	**2.68**		**0.884**
Beryllium	**7440-41-7**	**0.00663**		**0.00264**
Cadmium	7440-43-9	0.0153	U	0.0612
Chromium	**7440-47-3**	**2.45**		**1.83**
Cobalt	**7440-48-4**	**0.231**		**0.0360**
Copper	**7440-50-8**	**55.2**		**2.17**
Lead	**7439-92-1**	**0.576**		**0.177**
Manganese	**7439-96-5**	**6.76**		**1.56**
Molybdenum	**7439-98-7**	**2.34**		**0.297**
Nickel	**7440-02-0**	**0.939**		**0.539**
Selenium	**7782-49-2**	**0.207**		**0.00740**
Thallium	**7440-28-0**	**0.00102**		**4.87E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0437**
Zinc	7440-66-6	10.1	U	63.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092424-HM
Matrix: Air
Lab ID: 4093027-26
Sample Volume: 2197.068 m³
Filter ID:
Sampled: 09/24/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 07:35

Comments: Q9540564 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.359**		**0.00694**
Barium	**7440-39-3**	**5.73**		**0.792**
Beryllium	**7440-41-7**	**0.0167**		**0.00237**
Cadmium	7440-43-9	0.0150	U	0.0549
Chromium	**7440-47-3**	**2.93**		**1.64**
Cobalt	**7440-48-4**	**0.496**		**0.0323**
Copper	**7440-50-8**	**19.6**		**1.95**
Lead	**7439-92-1**	**1.53**		**0.158**
Manganese	**7439-96-5**	**16.0**		**1.40**
Molybdenum	**7439-98-7**	**1.02**		**0.266**
Nickel	**7440-02-0**	**1.52**		**0.483**
Selenium	**7782-49-2**	**0.208**		**0.00664**
Thallium	**7440-28-0**	**0.00118**		**4.36E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0392**
Zinc	7440-66-6	18.6	U	56.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092424-HM
Matrix: Air
Lab ID: 4093027-27
Sample Volume: 2032.96 m³
Filter ID:
Sampled: 09/24/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 08:08

Comments: Q9540563 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0626**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.194**		**0.00750**
Barium	**7440-39-3**	**3.55**		**0.856**
Beryllium	**7440-41-7**	**0.0360**		**0.00256**
Cadmium	7440-43-9	0.0265	U	0.0593
Chromium	**7440-47-3**	**3.51**		**1.77**
Cobalt	**7440-48-4**	**0.691**		**0.0349**
Copper	**7440-50-8**	**67.6**		**2.10**
Lead	**7439-92-1**	**0.405**		**0.171**
Manganese	**7439-96-5**	**18.2**		**1.51**
Molybdenum	**7439-98-7**	**2.65**		**0.287**
Nickel	**7440-02-0**	**1.95**		**0.522**
Selenium	**7782-49-2**	**0.222**		**0.00717**
Thallium	**7440-28-0**	**0.00136**		**4.71E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0423**
Zinc	7440-66-6	11.6	U	61.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092424-HM
Matrix: Air
Lab ID: 4093027-28
Sample Volume: 1836.803 m³
Filter ID:
Sampled: 09/24/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 08:23

Comments: Q9540559 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0598**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.333**		**0.00830**
Barium	**7440-39-3**	**3.22**		**0.948**
Beryllium	**7440-41-7**	**0.0207**		**0.00283**
Cadmium	7440-43-9	0.0125	U	0.0656
Chromium	**7440-47-3**	**16.4**		**1.96**
Cobalt	**7440-48-4**	**0.721**		**0.0386**
Copper	**7440-50-8**	**20.5**		**2.33**
Lead	**7439-92-1**	**0.372**		**0.190**
Manganese	**7439-96-5**	**20.8**		**1.67**
Molybdenum	**7439-98-7**	**1.53**		**0.318**
Nickel	**7440-02-0**	**7.00**		**0.578**
Selenium	**7782-49-2**	**0.214**		**0.00794**
Thallium	**7440-28-0**	**0.00135**		**5.22E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0469**
Zinc	7440-66-6	9.81	U	68.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092524-HM
Matrix: Air
Lab ID: 4093027-29
Sample Volume: 2053.418 m³
Filter ID:
Sampled: 09/25/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 08:37

Comments: Q9540558 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0541**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.196**		**0.00742**
Barium	**7440-39-3**	**3.34**		**0.848**
Beryllium	**7440-41-7**	**0.00916**		**0.00254**
Cadmium	7440-43-9	0.0170	U	0.0587
Chromium	**7440-47-3**	**2.46**		**1.75**
Cobalt	**7440-48-4**	**0.308**		**0.0345**
Copper	**7440-50-8**	**52.7**		**2.08**
Lead	**7439-92-1**	**0.727**		**0.170**
Manganese	**7439-96-5**	**9.38**		**1.50**
Molybdenum	**7439-98-7**	**2.30**		**0.284**
Nickel	**7440-02-0**	**0.945**		**0.517**
Selenium	**7782-49-2**	**0.188**		**0.00710**
Thallium	**7440-28-0**	**6.20E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0419**
Zinc	7440-66-6	10.7	U	60.9

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FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092524-HM
Matrix: Air
Lab ID: 4093027-30
Sample Volume: 2026.68 m³
Filter ID:
Sampled: 09/25/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 08:53

Comments: Q9540557 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.260**		**0.00752**
Barium	**7440-39-3**	**5.64**		**0.859**
Beryllium	**7440-41-7**	**0.0145**		**0.00257**
Cadmium	7440-43-9	0.00981	U	0.0595
Chromium	**7440-47-3**	**2.87**		**1.77**
Cobalt	**7440-48-4**	**0.451**		**0.0350**
Copper	**7440-50-8**	**22.3**		**2.11**
Lead	**7439-92-1**	**0.929**		**0.172**
Manganese	**7439-96-5**	**14.1**		**1.52**
Molybdenum	**7439-98-7**	**1.38**		**0.288**
Nickel	**7440-02-0**	**1.24**		**0.523**
Selenium	**7782-49-2**	**0.228**		**0.00719**
Thallium	**7440-28-0**	**9.10E-4**		**4.73E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0425**
Zinc	7440-66-6	14.2	U	61.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092524-HM
Matrix: Air
Lab ID: 4093027-31
Sample Volume: 1916.41 m³
Filter ID:
Sampled: 09/25/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 09:42

Comments: Q9540556 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0330**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.153**		**0.00795**
Barium	**7440-39-3**	**2.95**		**0.908**
Beryllium	**7440-41-7**	**0.0235**		**0.00272**
Cadmium	7440-43-9	0.0163	U	0.0629
Chromium	**7440-47-3**	**3.27**		**1.88**
Cobalt	**7440-48-4**	**0.471**		**0.0370**
Copper	**7440-50-8**	**47.6**		**2.23**
Lead	**7439-92-1**	**0.289**		**0.182**
Manganese	**7439-96-5**	**12.5**		**1.60**
Molybdenum	**7439-98-7**	**2.69**		**0.305**
Nickel	**7440-02-0**	**1.71**		**0.554**
Selenium	**7782-49-2**	**0.183**		**0.00761**
Thallium	**7440-28-0**	**9.11E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0449**
Zinc	7440-66-6	10.2	U	65.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092524-HM
Matrix: Air
Lab ID: 4093027-32
Sample Volume: 1902.545 m³
Filter ID:
Sampled: 09/25/24 23:59
Received: 09/30/24 13:19
Analysis Date: 10/02/24 10:14

Comments: Q9540553 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0505**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.152**		**0.00801**
Barium	**7440-39-3**	**2.29**		**0.915**
Beryllium	**7440-41-7**	**0.00893**		**0.00274**
Cadmium	7440-43-9	0.00987	U	0.0634
Chromium	**7440-47-3**	**8.63**		**1.89**
Cobalt	**7440-48-4**	**0.411**		**0.0373**
Copper	**7440-50-8**	**23.3**		**2.25**
Lead	**7439-92-1**	**0.246**		**0.183**
Manganese	**7439-96-5**	**10.9**		**1.62**
Molybdenum	**7439-98-7**	**1.77**		**0.307**
Nickel	**7440-02-0**	**3.87**		**0.558**
Selenium	**7782-49-2**	**0.168**		**0.00766**
Thallium	**7440-28-0**	**7.28E-4**		**5.04E-4**
Vanadium	**7440-62-2**	**0.961**		**0.0452**
Zinc	7440-66-6	8.38	U	65.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-092524-HM
Matrix: Air
Lab ID: 4093027-33
Sample Volume: 2053.418 m³
Filter ID:
Sampled: 09/25/24 00:00
Received: 09/30/24 13:19
Analysis Date: 10/02/24 10:30

Comments: Q9540546 - Recived in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00774	SL, U	0.0306
Arsenic	7440-38-2	0.00446	U	0.00742
Barium	7440-39-3	0.759	U	0.848
Beryllium	7440-41-7	0.00102	U	0.00254
Cadmium	7440-43-9	0.00324	U	0.0587
Chromium	7440-47-3	1.38	U	1.75
Cobalt	**7440-48-4**	**0.0353**	FB-01	**0.0345**
Copper	7440-50-8	0.568	U	2.08
Lead	7439-92-1	0.0494	U	0.170
Manganese	7439-96-5	0.219	U	1.50
Molybdenum	7439-98-7	0.228	U	0.284
Nickel	7440-02-0	0.285	U	0.517
Selenium	7782-49-2	0.00350	U	0.00710
Thallium	7440-28-0	3.69E-5	U	4.67E-4
Vanadium	7440-62-2	0.0221	U	0.0419
Zinc	7440-66-6	2.44	U	60.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Blank (2410006-CCB1)				Prepared & Analyzed: 10/01/24						
Antimony	5.18		ng/l							
Arsenic	-0.365		ng/l							U
Barium	2.11		ng/l							
Beryllium	-0.104		ng/l							U
Cadmium	0.177		ng/l							
Chromium	3.50		ng/l							
Cobalt	0.535		ng/l							
Copper	89.3		ng/l							
Lead	5.47		ng/l							
Manganese	8.42		ng/l							
Molybdenum	67.7		ng/l							
Nickel	1.97		ng/l							
Selenium	13.1		ng/l							
Thallium	0.619		ng/l							
Vanadium	-29.4		ng/l							U
Zinc	-122		ng/l							U
Calibration Blank (2410006-CCB2)				Prepared & Analyzed: 10/01/24						
Antimony	3.33		ng/l							
Arsenic	3.07		ng/l							
Barium	1.51		ng/l							
Beryllium	0.393		ng/l							
Cadmium	0.208		ng/l							
Chromium	4.28		ng/l							
Cobalt	0.516		ng/l							
Copper	61.7		ng/l							
Lead	3.49		ng/l							
Manganese	7.65		ng/l							
Molybdenum	21.5		ng/l							
Nickel	2.12		ng/l							
Selenium	3.10		ng/l							
Thallium	0.219		ng/l							
Vanadium	-24.5		ng/l							U
Zinc	-136		ng/l							U
Calibration Blank (2410006-CCB3)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	3.52		ng/l							
Arsenic	4.48		ng/l							
Barium	2.22		ng/l							
Beryllium	0.0164		ng/l							

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Blank (2410006-CCB3) Contin				Prepared: 10/01/24 Analyzed: 10/02/24						
Cadmium	0.230		ng/l							
Chromium	4.34		ng/l							
Cobalt	0.482		ng/l							
Copper	49.9		ng/l							
Lead	2.95		ng/l							
Manganese	6.67		ng/l							
Molybdenum	25.0		ng/l							
Nickel	2.68		ng/l							
Selenium	7.38		ng/l							
Thallium	0.403		ng/l							
Vanadium	-30.3		ng/l							U
Zinc	-125		ng/l							U
Calibration Blank (2410006-CCB4)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	3.14		ng/l							
Arsenic	2.30		ng/l							
Barium	1.07		ng/l							
Beryllium	0.0219		ng/l							
Cadmium	0.0634		ng/l							
Chromium	3.56		ng/l							
Cobalt	0.518		ng/l							
Copper	48.7		ng/l							
Lead	3.15		ng/l							
Manganese	6.84		ng/l							
Molybdenum	24.9		ng/l							
Nickel	2.86		ng/l							
Selenium	-0.724		ng/l							U
Thallium	0.481		ng/l							
Vanadium	-34.4		ng/l							U
Zinc	-142		ng/l							U
Calibration Blank (2410006-CCB5)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	2.29		ng/l							
Arsenic	3.69		ng/l							
Barium	1.08		ng/l							
Beryllium	-0.308		ng/l							U
Cadmium	0.0884		ng/l							
Chromium	2.23		ng/l							
Cobalt	0.412		ng/l							
Copper	37.8		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Blank (2410006-CCB5) Contin				Prepared: 10/01/24 Analyzed: 10/02/24						
Lead	2.62		ng/l							
Manganese	4.89		ng/l							
Molybdenum	18.2		ng/l							
Nickel	2.11		ng/l							
Selenium	9.15		ng/l							
Thallium	0.617		ng/l							
Vanadium	-31.9		ng/l							U
Zinc	-118		ng/l							U
Calibration Blank (2410006-CCB6)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	1.77		ng/l							
Arsenic	3.23		ng/l							
Barium	0.793		ng/l							
Beryllium	-0.544		ng/l							U
Cadmium	0.222		ng/l							
Chromium	1.95		ng/l							
Cobalt	0.409		ng/l							
Copper	29.3		ng/l							
Lead	2.43		ng/l							
Manganese	5.00		ng/l							
Molybdenum	21.3		ng/l							
Nickel	3.69		ng/l							
Selenium	5.11		ng/l							
Thallium	0.880		ng/l							
Vanadium	-35.2		ng/l							U
Zinc	-115		ng/l							U
Calibration Blank (2410006-CCB7)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	1.68		ng/l							
Arsenic	7.13		ng/l							
Barium	1.01		ng/l							
Beryllium	-0.711		ng/l							U
Cadmium	0.0376		ng/l							
Chromium	3.40		ng/l							
Cobalt	0.371		ng/l							
Copper	29.0		ng/l							
Lead	2.54		ng/l							
Manganese	3.87		ng/l							
Molybdenum	22.5		ng/l							
Nickel	2.63		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Blank (2410006-CCB7) Contin				Prepared: 10/01/24 Analyzed: 10/02/24						
Selenium	14.4		ng/l							
Thallium	1.19		ng/l							
Vanadium	-39.9		ng/l							U
Zinc	-138		ng/l							U
Calibration Check (2410006-CCV1)				Prepared & Analyzed: 10/01/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4750		ng/l	5000.0		95.0	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49600		ng/l	50000		99.1	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	497		ng/l	500.00		99.5	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2410006-CCV2)				Prepared & Analyzed: 10/01/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	233000		ng/l	240000		97.3	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	48700		ng/l	50000		97.4	90-110			
Nickel	118000		ng/l	120000		98.2	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	19600		ng/l	20000		98.0	90-110			
Zinc	507000		ng/l	500000		101	90-110			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Check (2410006-CCV3)					Prepared & Analyzed: 10/01/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	235000		ng/l	240000		97.8	90-110			
Cobalt	49200		ng/l	50000		98.4	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.3	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	48600		ng/l	50000		97.1	90-110			
Nickel	118000		ng/l	120000		98.3	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19700		ng/l	20000		98.6	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2410006-CCV4)					Prepared: 10/01/24 Analyzed: 10/02/24					
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.7	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2410006-CCV5)					Prepared: 10/01/24 Analyzed: 10/02/24					
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Check (2410006-CCV5) Contin				Prepared: 10/01/24 Analyzed: 10/02/24						
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2410006-CCV6)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2410006-CCV7)				Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Calibration Check (2410006-CCV7) Contin					Prepared: 10/01/24 Analyzed: 10/02/24					
Lead	206000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2410006-HCV1)					Prepared & Analyzed: 10/01/24					
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	403000		ng/l	400000		101	95-105			
Beryllium	9910		ng/l	10000		99.1	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	99900		ng/l	100000		99.9	95-105			
Copper	3.98E6		ng/l	4.0000E6		99.5	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	239000		ng/l	240000		99.5	95-105			
Selenium	40700		ng/l	40000		102	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			
Vanadium	40200		ng/l	40000		101	95-105			
Zinc	999000		ng/l	1.0000E6		99.9	95-105			
Initial Cal Blank (2410006-ICB1)					Prepared & Analyzed: 10/01/24					
Antimony	1.84		ng/l							
Arsenic	-3.91		ng/l							U
Barium	-0.412		ng/l							U
Beryllium	-0.274		ng/l							U
Cadmium	0.0447		ng/l							
Chromium	1.40		ng/l							
Cobalt	0.137		ng/l							
Copper	31.7		ng/l							
Lead	1.93		ng/l							
Manganese	3.86		ng/l							
Molybdenum	10.5		ng/l							
Nickel	-1.12		ng/l							U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Initial Cal Blank (2410006-ICB1) Continu				Prepared & Analyzed: 10/01/24						
Selenium	3.49		ng/l							
Thallium	0.331		ng/l							
Vanadium	-15.5		ng/l							U
Zinc	-107		ng/l							U
Initial Cal Check (2410006-ICV1)				Prepared & Analyzed: 10/01/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19200		ng/l	20000		95.9	90-110			
Barium	193000		ng/l	200000		96.7	90-110			
Beryllium	4950		ng/l	5000.0		98.9	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	478		ng/l	500.00		95.7	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Interference Check A (2410006-IFA1)				Prepared & Analyzed: 10/01/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	313000		ng/l	60000		522	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410006 - B4J0107										
Interference Check B (2410006-IFB1)					Prepared & Analyzed: 10/01/24					
Antimony	20800		ng/l	10000		208	80-120			
Arsenic	20300		ng/l	10000		203	80-120			
Barium	202000		ng/l	250000		80.7	80-120			
Beryllium	4870		ng/l	5000.0		97.4	80-120			
Cadmium	20000		ng/l	50000		40.0	80-120			
Chromium	232000		ng/l	120000		193	80-120			
Cobalt	51900		ng/l	5000.0		NR	80-120			
Copper	1.93E6		ng/l	200000		963	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	521000		ng/l	100000		521	80-120			
Molybdenum	369000		ng/l	70000		527	80-120			
Nickel	118000		ng/l	25000		472	80-120			
Selenium	19500		ng/l	10000		195	80-120			
Thallium	510		ng/l	500.00		102	80-120			
Vanadium	19900		ng/l	20000		99.4	80-120			
Zinc	493000		ng/l	700000		70.5	80-120			
Batch B4J0107 - ICP-MS Extraction										
Blank (B4J0107-BLK1)					Prepared & Analyzed: 10/01/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J0107-BS1)					Prepared & Analyzed: 10/01/24					
Antimony	0.814	0.0386	ng/m³ Air	1.3829		58.9	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	29.2	1.07	ng/m³ Air	27.658		105	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
LCS (B4J0107-BS1) Continued					Prepared & Analyzed: 10/01/24					
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.1	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.3	80-120			
Manganese	8.59	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.27	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.5	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		96.7	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	94.2	76.8	ng/m³ Air	82.975		113	80-120			
LCS (B4J0107-BS2)					Prepared & Analyzed: 10/01/24					
Antimony	0.816	0.0386	ng/m³ Air	1.3829		59.0	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.2	80-120			
Barium	28.9	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.6	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.6	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.4	80-120			
Manganese	8.56	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.53	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.24	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.8	80-120			
Thallium	0.130	5.89E-4	ng/m³ Air	0.13829		94.1	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	94.9	76.8	ng/m³ Air	82.975		114	80-120			
Duplicate (B4J0107-DUP1)		**Source: 4093027-13**			Prepared & Analyzed: 10/01/24					
Antimony	0.0659	0.0317	ng/m³ Air		0.0712			7.74	10	SL
Arsenic	0.335	0.00771	ng/m³ Air		0.367			9.13	10	
Barium	2.11	0.880	ng/m³ Air		2.33			9.98	10	
Beryllium	0.00772	0.00263	ng/m³ Air		0.00839			8.34	10	
Cadmium	ND	0.0609	ng/m³ Air		ND				10	U
Chromium	ND	1.82	ng/m³ Air		2.01				10	U
Cobalt	0.221	0.0359	ng/m³ Air		0.248			11.6	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Duplicate (B4J0107-DUP1) Continued			**Source: 4093027-13**		Prepared & Analyzed: 10/01/24					
Copper	24.8	2.16	ng/m³ Air		30.4			20.2	10	D-F
Lead	0.205	0.176	ng/m³ Air		0.193			5.98	10	
Manganese	7.28	1.55	ng/m³ Air		8.05			9.96	10	
Molybdenum	0.907	0.295	ng/m³ Air		1.09			18.0	10	
Nickel	0.835	0.536	ng/m³ Air		1.00			18.1	10	
Selenium	0.126	0.00737	ng/m³ Air		0.134			6.14	10	
Thallium	5.71E-4	4.84E-4	ng/m³ Air		6.72E-4			16.3	10	
Vanadium	0.712	0.0435	ng/m³ Air		0.775			8.46	10	
Zinc	ND	63.2	ng/m³ Air		ND				10	U
Duplicate (B4J0107-DUP2)			**Source: 4093027-20**		Prepared & Analyzed: 10/01/24					
Antimony	0.0610	0.0306	ng/m³ Air		0.0597			2.08	10	SL
Arsenic	0.178	0.00743	ng/m³ Air		0.182			2.06	10	
Barium	2.48	0.848	ng/m³ Air		2.43			2.01	10	
Beryllium	0.00609	0.00254	ng/m³ Air		0.00616			1.04	10	
Cadmium	ND	0.0588	ng/m³ Air		ND				10	U
Chromium	2.33	1.75	ng/m³ Air		2.31			0.825	10	
Cobalt	0.235	0.0346	ng/m³ Air		0.225			4.18	10	
Copper	46.1	2.09	ng/m³ Air		48.8			5.60	10	
Lead	0.474	0.170	ng/m³ Air		0.588			21.5	10	
Manganese	5.82	1.50	ng/m³ Air		5.82			0.0705	10	
Molybdenum	1.76	0.285	ng/m³ Air		1.83			3.95	10	
Nickel	0.979	0.517	ng/m³ Air		0.948			3.19	10	
Selenium	0.153	0.00710	ng/m³ Air		0.160			4.96	10	
Thallium	9.17E-4	4.67E-4	ng/m³ Air		0.00100			9.20	10	
Vanadium	0.872	0.0419	ng/m³ Air		0.883			1.35	10	
Zinc	ND	60.9	ng/m³ Air		ND				10	U
Duplicate (B4J0107-DUP3)			**Source: 4093027-26**		Prepared: 10/01/24 Analyzed: 10/02/24					
Antimony	0.105	0.0286	ng/m³ Air		0.105			0.127	10	SL
Arsenic	0.364	0.00694	ng/m³ Air		0.359			1.60	10	
Barium	5.69	0.792	ng/m³ Air		5.73			0.732	10	
Beryllium	0.0180	0.00237	ng/m³ Air		0.0167			7.64	10	
Cadmium	ND	0.0549	ng/m³ Air		ND				10	U
Chromium	2.95	1.64	ng/m³ Air		2.93			0.634	10	
Cobalt	0.505	0.0323	ng/m³ Air		0.496			1.77	10	
Copper	19.8	1.95	ng/m³ Air		19.6			0.925	10	
Lead	1.52	0.158	ng/m³ Air		1.53			0.352	10	
Manganese	16.1	1.40	ng/m³ Air		16.0			1.08	10	
Molybdenum	1.02	0.266	ng/m³ Air		1.02			0.104	10	

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
SUBMITTED: 09/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Duplicate (B4J0107-DUP3) Continued		**Source: 4093027-26**		Prepared: 10/01/24 Analyzed: 10/02/24						
Nickel	1.53	0.483	ng/m³ Air		1.52			0.965	10	
Selenium	0.207	0.00664	ng/m³ Air		0.208			0.382	10	
Thallium	0.00123	4.36E-4	ng/m³ Air		0.00118			4.24	10	
Vanadium	1.80	0.0392	ng/m³ Air		1.79			0.462	10	
Zinc	ND	56.9	ng/m³ Air		ND				10	U
Duplicate (B4J0107-DUP4)		**Source: 4093027-31**		Prepared: 10/01/24 Analyzed: 10/02/24						
Antimony	ND	0.0328	ng/m³ Air		0.0330				10	SL, U
Arsenic	0.155	0.00795	ng/m³ Air		0.153			1.53	10	
Barium	2.96	0.908	ng/m³ Air		2.95			0.510	10	
Beryllium	0.0233	0.00272	ng/m³ Air		0.0235			0.855	10	
Cadmium	ND	0.0629	ng/m³ Air		ND				10	U
Chromium	3.24	1.88	ng/m³ Air		3.27			1.14	10	
Cobalt	0.471	0.0370	ng/m³ Air		0.471			0.176	10	
Copper	47.5	2.23	ng/m³ Air		47.6			0.151	10	
Lead	0.286	0.182	ng/m³ Air		0.289			1.10	10	
Manganese	12.5	1.60	ng/m³ Air		12.5			0.147	10	
Molybdenum	2.66	0.305	ng/m³ Air		2.69			1.21	10	
Nickel	1.72	0.554	ng/m³ Air		1.71			0.414	10	
Selenium	0.178	0.00761	ng/m³ Air		0.183			2.77	10	
Thallium	7.85E-4	5.00E-4	ng/m³ Air		9.11E-4			14.9	10	
Vanadium	1.24	0.0449	ng/m³ Air		1.25			0.544	10	
Zinc	ND	65.2	ng/m³ Air		ND				10	U
Matrix Spike (B4J0107-MS1)		**Source: 4093027-13**		Prepared & Analyzed: 10/01/24						
Antimony	0.769	0.0317	ng/m³ Air	1.1374	0.0712	61.3	80-120			SL
Arsenic	2.64	0.00771	ng/m³ Air	2.2749	0.367	99.8	80-120			
Barium	25.2	0.880	ng/m³ Air	22.749	2.33	100	80-120			
Beryllium	1.10	0.00263	ng/m³ Air	1.1374	0.00839	95.7	80-120			
Cadmium	1.17	0.0609	ng/m³ Air	1.1374	ND	103	80-120			
Chromium	13.3	1.82	ng/m³ Air	11.374	2.01	98.9	80-120			
Cobalt	1.34	0.0359	ng/m³ Air	1.1374	0.248	96.2	80-120			
Copper	47.2	2.16	ng/m³ Air	22.749	30.4	73.7	80-120			QM-07
Lead	11.3	0.176	ng/m³ Air	11.374	0.193	97.6	80-120			
Manganese	14.2	1.55	ng/m³ Air	6.8246	8.05	89.5	80-120			
Molybdenum	2.02	0.295	ng/m³ Air	1.1374	1.09	82.2	80-120			
Nickel	3.11	0.536	ng/m³ Air	2.2749	1.00	92.6	80-120			
Selenium	2.39	0.00737	ng/m³ Air	2.2749	0.134	99.1	80-120			
Thallium	0.108	4.84E-4	ng/m³ Air	0.11374	6.72E-4	94.4	80-120			
Vanadium	2.95	0.0435	ng/m³ Air	2.2749	0.775	95.8	80-120			

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FILE #: 4205.00.003.001
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Matrix Spike (B4J0107-MS1) Continued	**Source: 4093027-13**			Prepared & Analyzed: 10/01/24						
Zinc	82.1	63.2	ng/m³ Air	68.246	ND	120	80-120			
Matrix Spike (B4J0107-MS2)	**Source: 4093027-20**			Prepared & Analyzed: 10/01/24						
Antimony	0.609	0.0306	ng/m³ Air	1.0965	0.0597	50.1	80-120			SL
Arsenic	2.28	0.00743	ng/m³ Air	2.1930	0.182	95.7	80-120			
Barium	24.0	0.848	ng/m³ Air	21.930	2.43	98.6	80-120			
Beryllium	1.07	0.00254	ng/m³ Air	1.0965	0.00616	96.8	80-120			
Cadmium	1.12	0.0588	ng/m³ Air	1.0965	ND	102	80-120			
Chromium	13.7	1.75	ng/m³ Air	10.965	2.31	104	80-120			
Cobalt	1.28	0.0346	ng/m³ Air	1.0965	0.225	96.5	80-120			
Copper	66.1	2.09	ng/m³ Air	21.930	48.8	79.0	80-120			QM-07
Lead	11.0	0.170	ng/m³ Air	10.965	0.588	95.0	80-120			
Manganese	12.2	1.50	ng/m³ Air	6.5791	5.82	97.1	80-120			
Molybdenum	2.68	0.285	ng/m³ Air	1.0965	1.83	77.4	80-120			QM-07
Nickel	3.06	0.517	ng/m³ Air	2.1930	0.948	96.4	80-120			
Selenium	2.30	0.00710	ng/m³ Air	2.1930	0.160	97.6	80-120			
Thallium	0.102	4.67E-4	ng/m³ Air	0.10965	0.00100	92.4	80-120			
Vanadium	2.97	0.0419	ng/m³ Air	2.1930	0.883	95.0	80-120			
Zinc	80.9	60.9	ng/m³ Air	65.791	ND	123	80-120			
Matrix Spike Dup (B4J0107-MSD1)	**Source: 4093027-13**			Prepared & Analyzed: 10/01/24						
Antimony	0.788	0.0317	ng/m³ Air	1.1374	0.0712	63.0	80-120	2.44	20	SL
Arsenic	2.52	0.00771	ng/m³ Air	2.2749	0.367	94.7	80-120	4.48	20	
Barium	25.0	0.880	ng/m³ Air	22.749	2.33	99.7	80-120	0.564	20	
Beryllium	1.10	0.00263	ng/m³ Air	1.1374	0.00839	96.2	80-120	0.586	20	
Cadmium	1.32	0.0609	ng/m³ Air	1.1374	ND	116	80-120	12.2	20	
Chromium	13.0	1.82	ng/m³ Air	11.374	2.01	96.4	80-120	2.09	20	
Cobalt	1.32	0.0359	ng/m³ Air	1.1374	0.248	94.1	80-120	1.77	20	
Copper	47.1	2.16	ng/m³ Air	22.749	30.4	73.1	80-120	0.271	20	QM-07
Lead	11.2	0.176	ng/m³ Air	11.374	0.193	97.2	80-120	0.462	20	
Manganese	13.9	1.55	ng/m³ Air	6.8246	8.05	85.3	80-120	2.03	20	
Molybdenum	1.98	0.295	ng/m³ Air	1.1374	1.09	79.0	80-120	1.86	20	QM-07
Nickel	3.00	0.536	ng/m³ Air	2.2749	1.00	88.0	80-120	3.45	20	
Selenium	2.37	0.00737	ng/m³ Air	2.2749	0.134	98.4	80-120	0.671	20	
Thallium	0.109	4.84E-4	ng/m³ Air	0.11374	6.72E-4	95.6	80-120	1.20	20	
Vanadium	2.92	0.0435	ng/m³ Air	2.2749	0.775	94.3	80-120	1.20	20	
Zinc	80.9	63.2	ng/m³ Air	68.246	ND	119	80-120	1.42	20	
Matrix Spike Dup (B4J0107-MSD2)	**Source: 4093027-20**			Prepared & Analyzed: 10/01/24						
Antimony	0.586	0.0306	ng/m³ Air	1.0965	0.0597	48.0	80-120	3.80	20	SL
Arsenic	2.29	0.00743	ng/m³ Air	2.1930	0.182	96.3	80-120	0.546	20	

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FILE #: 4205.00.003.001
REPORTED: 10/08/24 13:06
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Matrix Spike Dup (B4J0107-MSD2) Contir				**Source: 4093027-20**		Prepared & Analyzed: 10/01/24				
Barium	24.6	0.848	ng/m³ Air	21.930	2.43	101	80-120	2.40	20	
Beryllium	1.07	0.00254	ng/m³ Air	1.0965	0.00616	97.2	80-120	0.437	20	
Cadmium	1.12	0.0588	ng/m³ Air	1.0965	ND	102	80-120	0.196	20	
Chromium	13.1	1.75	ng/m³ Air	10.965	2.31	98.8	80-120	4.07	20	
Cobalt	1.29	0.0346	ng/m³ Air	1.0965	0.225	97.5	80-120	0.915	20	
Copper	66.5	2.09	ng/m³ Air	21.930	48.8	80.7	80-120	0.568	20	
Lead	11.2	0.170	ng/m³ Air	10.965	0.588	96.4	80-120	1.44	20	
Manganese	12.5	1.50	ng/m³ Air	6.5791	5.82	102	80-120	2.60	20	
Molybdenum	2.79	0.285	ng/m³ Air	1.0965	1.83	87.0	80-120	3.88	20	
Nickel	3.03	0.517	ng/m³ Air	2.1930	0.948	94.9	80-120	1.06	20	
Selenium	2.34	0.00710	ng/m³ Air	2.1930	0.160	99.2	80-120	1.49	20	
Thallium	0.104	4.67E-4	ng/m³ Air	0.10965	0.00100	94.1	80-120	1.77	20	
Vanadium	3.04	0.0419	ng/m³ Air	2.1930	0.883	98.5	80-120	2.54	20	
Zinc	80.2	60.9	ng/m³ Air	65.791	ND	122	80-120	0.808	20	
Post Spike (B4J0107-PS1)				**Source: 4093027-13**		Prepared & Analyzed: 10/01/24				
Antimony	0.294	0.0317	ng/m³ Air	0.22749	0.0712	98.1	75-125			SL
Arsenic	1.41	0.00771	ng/m³ Air	1.1374	0.367	91.9	75-125			
Barium	4.43	0.880	ng/m³ Air	2.2749	2.33	92.5	75-125			
Beryllium	0.227	0.00263	ng/m³ Air	0.22749	0.00839	95.9	75-125			
Cadmium	0.123	0.0609	ng/m³ Air	0.11374	ND	108	75-125			
Chromium	3.08	1.82	ng/m³ Air	1.1374	2.01	93.7	75-125			
Cobalt	0.465	0.0359	ng/m³ Air	0.22749	0.248	95.3	75-125			
Copper	41.6	2.16	ng/m³ Air	11.374	30.4	98.5	75-125			
Lead	22.6	0.176	ng/m³ Air	22.749	0.193	98.5	75-125			
Manganese	10.3	1.55	ng/m³ Air	2.2749	8.05	98.4	75-125			
Molybdenum	2.13	0.295	ng/m³ Air	1.1374	1.09	92.0	75-125			
Nickel	3.19	0.536	ng/m³ Air	2.2749	1.00	96.3	75-125			
Selenium	1.23	0.00737	ng/m³ Air	1.1374	0.134	96.7	75-125			
Thallium	0.0544	4.84E-4	ng/m³ Air	5.6871E-2	6.72E-4	94.5	75-125			
Vanadium	1.88	0.0435	ng/m³ Air	1.1374	0.775	96.7	75-125			
Zinc	ND	63.2	ng/m³ Air	22.749	ND		75-125			U
Post Spike (B4J0107-PS2)				**Source: 4093027-20**		Prepared & Analyzed: 10/01/24				
Antimony	0.281	0.0306	ng/m³ Air	0.21930	0.0597	101	75-125			SL
Arsenic	1.20	0.00743	ng/m³ Air	1.0965	0.182	92.9	75-125			
Barium	4.50	0.848	ng/m³ Air	2.1930	2.43	94.1	75-125			
Beryllium	0.223	0.00254	ng/m³ Air	0.21930	0.00616	98.8	75-125			
Cadmium	0.129	0.0588	ng/m³ Air	0.10965	ND	117	75-125			
Chromium	3.37	1.75	ng/m³ Air	1.0965	2.31	96.7	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Post Spike (B4J0107-PS2) Continued		**Source: 4093027-20**		Prepared & Analyzed: 10/01/24						
Cobalt	0.438	0.0346	ng/m³ Air	0.21930	0.225	97.3	75-125			
Copper	60.3	2.09	ng/m³ Air	10.965	48.8	105	75-125			
Lead	22.7	0.170	ng/m³ Air	21.930	0.588	101	75-125			
Manganese	7.99	1.50	ng/m³ Air	2.1930	5.82	99.2	75-125			
Molybdenum	2.85	0.285	ng/m³ Air	1.0965	1.83	92.6	75-125			
Nickel	3.07	0.517	ng/m³ Air	2.1930	0.948	96.9	75-125			
Selenium	1.23	0.00710	ng/m³ Air	1.0965	0.160	98.0	75-125			
Thallium	0.0531	4.67E-4	ng/m³ Air	5.4826E-2	0.00100	95.1	75-125			
Vanadium	1.97	0.0419	ng/m³ Air	1.0965	0.883	99.3	75-125			
Zinc	ND	60.9	ng/m³ Air	21.930	ND		75-125			U
Dilution Check (B4J0107-SRL1)		**Source: 4093027-13**		Prepared & Analyzed: 10/01/24						
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.371	0.0385	ng/m³ Air		0.367			1.19	10	
Barium	ND	4.40	ng/m³ Air		ND				10	U
Beryllium	ND	0.0132	ng/m³ Air		ND				10	U
Cadmium	ND	0.305	ng/m³ Air		ND				10	U
Chromium	ND	9.09	ng/m³ Air		ND				10	U
Cobalt	0.251	0.179	ng/m³ Air		0.248			1.06	10	
Copper	30.6	10.8	ng/m³ Air		30.4			0.486	10	
Lead	ND	0.880	ng/m³ Air		ND				10	U
Manganese	8.04	7.77	ng/m³ Air		8.05			0.0733	10	
Molybdenum	ND	1.48	ng/m³ Air		ND				10	U
Nickel	ND	2.68	ng/m³ Air		ND				10	U
Selenium	0.119	0.0368	ng/m³ Air		0.134			11.4	10	
Thallium	ND	0.00242	ng/m³ Air		ND				10	U
Vanadium	0.799	0.218	ng/m³ Air		0.775			3.02	10	
Zinc	ND	316	ng/m³ Air		ND				10	U
Dilution Check (B4J0107-SRL2)		**Source: 4093027-20**		Prepared & Analyzed: 10/01/24						
Antimony	ND	0.153	ng/m³ Air		ND				10	SL, U
Arsenic	0.189	0.0371	ng/m³ Air		0.182			4.01	10	
Barium	ND	4.24	ng/m³ Air		ND				10	U
Beryllium	ND	0.0127	ng/m³ Air		ND				10	U
Cadmium	ND	0.294	ng/m³ Air		ND				10	U
Chromium	ND	8.76	ng/m³ Air		ND				10	U
Cobalt	0.229	0.173	ng/m³ Air		0.225			1.57	10	
Copper	49.8	10.4	ng/m³ Air		48.8			2.06	10	
Lead	ND	0.848	ng/m³ Air		ND				10	U
Manganese	ND	7.49	ng/m³ Air		ND				10	U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0107 - ICP-MS Extraction										
Dilution Check (B4J0107-SRL2) Continued				**Source: 4093027-20**			Prepared & Analyzed: 10/01/24			
Molybdenum	1.82	1.42	ng/m³ Air		1.83			0.540	10	
Nickel	ND	2.58	ng/m³ Air		ND				10	U
Selenium	0.149	0.0355	ng/m³ Air		0.160			7.34	10	
Thallium	ND	0.00234	ng/m³ Air		ND				10	U
Vanadium	0.905	0.210	ng/m³ Air		0.883			2.44	10	
Zinc	ND	304	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/09/2024 and Shanna Vasser 10/09/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/19/2025 – 09/25/2024
Report No: 4093027

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for cobalt in MFL-FB01-092524-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

September 26 through October 2, 2024
[Report Updated: November 22, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from September 26 through October 2, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from September 26 through October 2 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included

the comment “Numerous gypsum fibers present” for samples collected at the following monitoring stations:

- WW Pump Station #4 on September 27
- Lahaina Recreational Center on September 27

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

The heavy metal sample collected on September 27, 2024 from Lahaina Recreational Center (AM-07) showed an exceedance of nickel with a concentration of 0.0219 $\mu g/m^3$ (SSAL 0.02 $\mu g/m^3$). This result was obtained from a sample that was collected over an approximate 24-hour sampling period between September 26 and September 27, 2024. The average windspeed at this location during the sampling period was 1.4 miles per hour (mph) with gusts up to 4.1 mph, and generally originating from a southeast direction. The wind direction shifted to be out of the east-northeast at approximately 20:00 on September 26through 07:00 on September 27.

No USACE crews or any other active crews were observed working near the air monitoring and sampling station at Lahaina Recreational Center (AM-07) station on September 26. As of September 18, the silt fencing that originally provided a barrier around the station was removed around the area. Field teams observed visible dust throughout the entire area on September 26. The area located around the Lahaina Recreational Center is surrounded by dirt roads. No water trucks have been observed spraying the roadways in the area. Dirt and dust located around the dirt roads in the area, and the removal of the silt fence barrier may have impacted the air monitoring and sampling station. Other general contributing factors which may have contributed to the nickel exceedance include grinding/cutting any metal construction materials, use of fertilizers, burning of waste, and tobacco smoke.

For all other heavy metals, low levels, below the respective SSALs, were detected in ambient air samples at all community sampling locations (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 mph and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer’s procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 “Calibration of Air Sampling Pump” and 073-3, “Air Quality Monitoring” and EPA Environmental Response Team (ERT) SOPs 2008 “General Air Monitoring and Sampling Guidelines” and 2015 “Asbestos Air Sampling," included in the CAMSP.

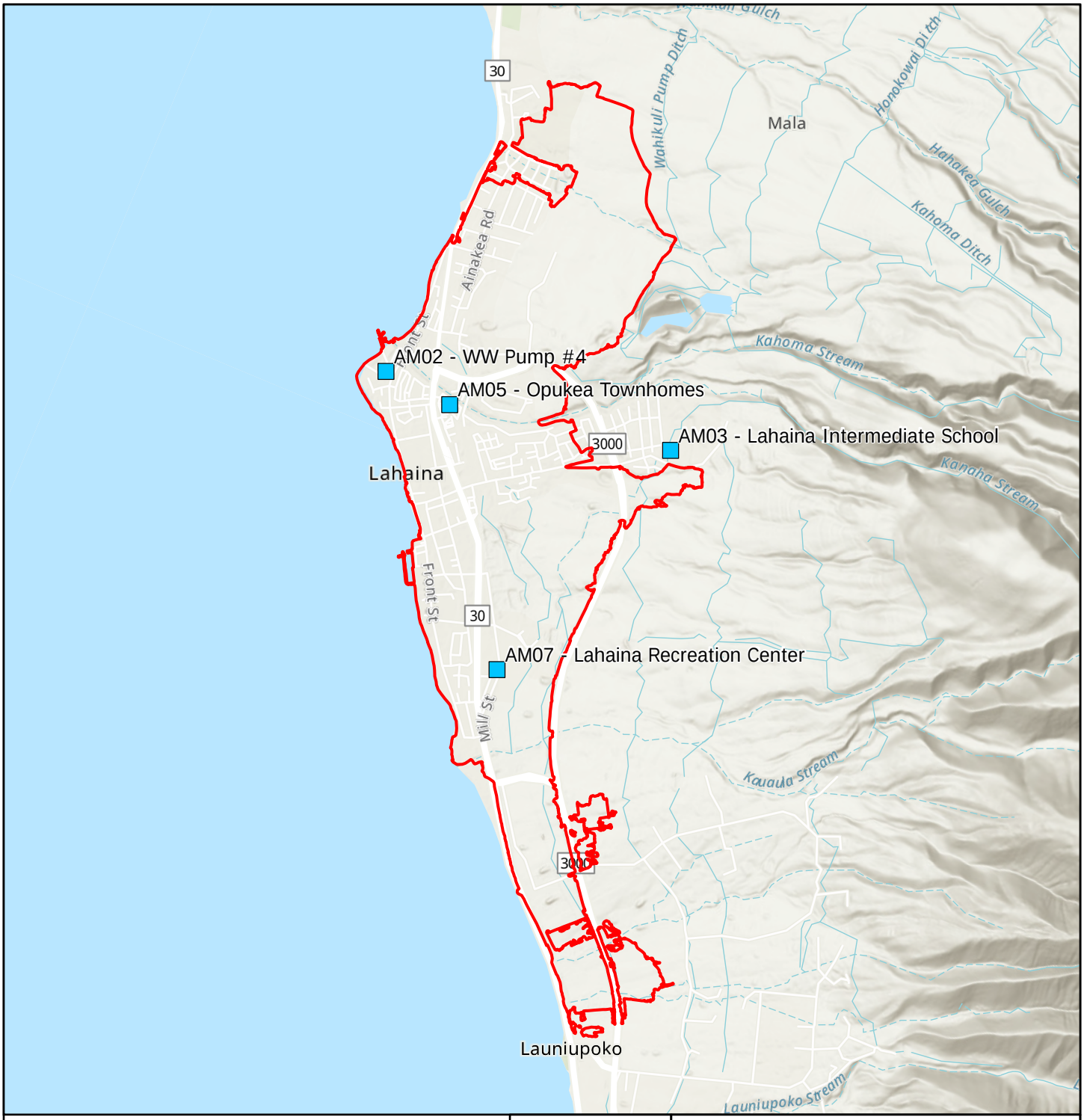
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
September 26 through October 2, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/26/2024	Opukea Townhomes (AM-05)	5.8
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	37
	Lahaina Recreation Center (AM-07)	4.1
9/27/2024	Opukea Townhomes (AM-05)	7.6
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	31
	Lahaina Recreation Center (AM-07)	83
9/28/2024	Opukea Townhomes (AM-05)	8.9
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	39
	Lahaina Recreation Center (AM-07)	5.5
9/29/2024	Opukea Townhomes (AM-05)	6.7
	WW Pump Station #4 (AM-02)	5.6
	Lahaina Intermediate School (AM-03)	30
	Lahaina Recreation Center (AM-07)	4.1
9/30/2024	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	29
	Lahaina Recreation Center (AM-07)	100
10/1/2024	Opukea Townhomes (AM-05)	8.3
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	35
	Lahaina Recreation Center (AM-07)	5.4
10/2/2024	Opukea Townhomes (AM-05)	8.7
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	123
	Lahaina Recreation Center (AM-07)	96

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 26 through October 2, 2024
[Report Updated: November 22, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000751	0.000220	0.00377	0.0000102	ND	0.00293	0.000375	0.0607	0.000487	0.0106	0.00300	0.00128	0.000181	0.000000937	0.00120	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000137	0.000273	0.00571	0.0000147	ND	0.00339	0.000533	0.0318	0.000798	0.0163	0.00176	0.00156	0.000205	0.00000106	0.00171	0.0859
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000450	0.000183	0.00345	0.0000472	ND	0.00333	0.000633	0.0378	0.000274	0.0147	0.00216	0.00154	0.000199	0.000000978	0.00143	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000656	0.000536	0.00255	0.00000764	ND	0.00294	0.000386	0.0220	0.000250	0.0106	0.00151	0.00133	0.000154	0.000000803	0.000959	ND
9/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000770	0.000388	0.00376	0.0000106	0.0000890	0.00260	0.000374	0.0535	0.000677	0.0116	0.00246	0.00124	0.000183	0.00000109	0.00139	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000944	0.000311	0.00626	0.0000204	ND	0.00437	0.000867	0.0275	0.000648	0.0215	0.00146	0.00258	0.000215	0.00000122	0.00283	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000326	0.000131	0.00269	0.0000199	ND	0.00266	0.000394	0.0394	0.000212	0.0108	0.00244	0.00146	0.000160	0.000000775	0.00118	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000943	0.000224	0.00296	0.0000133	ND	0.0453	0.000985	0.0387	0.000329	0.0186	0.00319	**0.0219**	0.000205	0.00000115	0.00159	ND
9/28/2024	Opukea Townhomes (AM-05)	<0.0027	0.0000777	0.000249	0.00338	0.00000770	ND	0.00238	0.000320	0.0376	0.000434	0.00919	0.00190	0.00121	0.000199	0.00000105	0.00124	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000101	0.000245	0.00478	0.0000121	ND	0.00273	0.000439	0.0197	0.000671	0.0131	0.00122	0.00137	0.000229	0.00000123	0.00170	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000409	0.000352	0.00658	0.0000979	ND	0.00709	0.00149	0.0394	0.000429	0.0357	0.00229	0.00355	0.000339	0.00000232	0.00402	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000633	0.000261	0.00235	0.00000734	ND	0.00424	0.000292	0.0285	0.000262	0.00889	0.00207	0.00226	0.000177	0.00000104	0.000997	ND
9/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000484	0.000154	0.00294	0.00000812	ND	0.00274	0.000268	0.0505	0.000339	0.00847	0.00280	0.00112	0.000181	0.000000844	0.00116	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000106	0.000297	0.00451	0.00000995	ND	0.00235	0.000332	0.0214	0.000529	0.0107	0.00145	0.00107	0.000214	0.000000985	0.00140	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000121	0.00231	0.0000140	ND	0.00276	0.000336	0.0390	0.000225	0.00834	0.00223	0.00114	0.000141	0.000000665	0.00103	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000475	0.000129	0.00197	0.00000699	ND	0.00948	0.000367	0.0267	0.000193	0.00870	0.00162	0.00459	0.000149	0.000000685	0.00102	ND
9/30/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000976	0.000239	0.00323	0.00000644	0.000197	0.00202	0.000212	0.0522	0.000583	0.00643	0.00266	0.000836	0.000145	0.000000935	0.000907	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000889	0.000311	0.00467	0.0000130	ND	0.00238	0.000383	0.0260	0.00115	0.0120	0.00152	0.00119	0.000166	0.000000704	0.00150	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000382	0.000121	0.00244	0.0000230	ND	0.00263	0.000358	0.0418	0.000240	0.00894	0.00230	0.00118	0.000117	0.000000732	0.000990	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000673	0.000186	0.00393	0.0000195	ND	0.00456	0.000472	0.0341	0.000250	0.0151	0.00185	0.00343	0.000162	0.00000116	0.00120	ND
10/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000806	0.000242	0.00309	0.00000799	0.0000869	0.00232	0.000303	0.0493	0.000582	0.00900	0.00260	0.00126	0.000189	0.00000083	0.00113	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000114	0.000263	0.00417	0.0000116	ND	0.00242	0.000417	0.0180	0.000566	0.0121	0.00123	0.00130	0.000205	0.000000672	0.00157	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000447	0.000160	0.00317	0.0000339	ND	0.00328	0.000624	0.0446	0.000255	0.0137	0.00229	0.00179	0.000188	0.000000872	0.00148	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000689	0.000179	0.00234	0.00000770	ND	0.0141	0.000450	0.0312	0.000265	0.0107	0.00228	0.00627	0.000179	0.000000751	0.00108	ND
10/2/2024	Opukea Townhomes (AM-05)	<0.0024	0.000118	0.000293	0.00462	0.0000117	ND	0.00628	0.000620	0.0510	0.000689	0.0151	0.00253	0.00637	0.000206	0.00000101	0.00184	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000179	0.000654	0.00630	0.0000152	ND	0.00311	0.000647	0.0248	0.000649	0.0171	0.00131	0.00220	0.000240	0.000000925	0.00239	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000613	0.000172	0.00365	0.0000228	ND	0.00314	0.000593	0.0596	0.000361	0.0172	0.00276	0.00376	0.000202	0.00000102	0.00175	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000112	0.000194	0.00319	0.0000108	ND	0.00212	0.000351	0.0389	0.000230	0.0120	0.00229	0.00148	0.000192	0.000000947	0.00128	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000290	0.00420	0.0000210	0.000969	0.00608	0.000570	0.0422	0.000540	0.0148	0.00233	0.00347	0.000200	0.00000110	0.00168	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Screening Level Exceedance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 26 through October 2, 2024
[Report Updated: November 22, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
9/26/2024	AM-02	WW Pump Station #4	1.0	SSE	81	67	762.5
9/26/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	65	753.1
9/26/2024	AM-05	Opukea Townhomes	1.2	SSE	84	63	761.9
9/26/2024	AM-07	Lahaina Recreational Center	1.4	SE	80	68	761.8
9/27/2024	AM-02	WW Pump Station #4	0.9	S	81	68	762.6
9/27/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	67	753.3
9/27/2024	AM-05	Opukea Townhomes	1.1	SE	83	65	762.1
9/27/2024	AM-07	Lahaina Recreational Center	1.3	SSE	79	70	761.9
9/28/2024	AM-02	WW Pump Station #4	1.1	SSE	81	65	762.4
9/28/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	63	753.0
9/28/2024	AM-05	Opukea Townhomes	1.3	SE	83	62	761.8
9/28/2024	AM-07	Lahaina Recreational Center	1.4	SE	79	66	761.7
9/29/2024	AM-02	WW Pump Station #4	0.9	S	80	66	762.0
9/29/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	64	752.6
9/29/2024	AM-05	Opukea Townhomes	1.1	SE	83	62	761.4
9/29/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	66	761.3
9/30/2024	AM-02	WW Pump Station #4	0.9	S	81	67	761.5
9/30/2024	AM-03	Lahaina Intermediate School	0.9	SE	80	65	752.1
9/30/2024	AM-05	Opukea Townhomes	1.0	SSE	83	64	760.9
9/30/2024	AM-07	Lahaina Recreational Center	1.2	SSE	80	68	760.8
10/1/2024	AM-02	WW Pump Station #4	0.9	S	81	69	762.2
10/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	66	752.8
10/1/2024	AM-05	Opukea Townhomes	1.2	SE	84	65	761.5
10/1/2024	AM-07	Lahaina Recreational Center	1.3	SSE	80	69	761.4
10/2/2024	AM-02	WW Pump Station #4	0.9	S	82	69	762.0
10/2/2024	AM-03	Lahaina Intermediate School	1.3	ESE	80	64	752.6
10/2/2024	AM-05	Opukea Townhomes	1.3	SE	84	64	761.3
10/2/2024	AM-07	Lahaina Recreational Center	1.4	SSE	80	69	761.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-092624-AB** **Sample Description: DL275109**

EMSL Sample Number:	042420429-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7192.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0001 **Customer Sample:** MFL-AM05-092624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I4	None Detected									
B1	E7	None Detected									
B1	A4	None Detected									
B2	H9	None Detected									
B2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092624-AB**		**Sample Description:**	**DL274964**
EMSL Sample Number:	042420429-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0002 **Customer Sample:** MFL-AM02-092624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B6	None Detected									
B5	E9	None Detected									
B5	J4	None Detected									
B6	H8	None Detected									
B6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092624-AB**		**Sample Description:**	**DL275029**
EMSL Sample Number:	042420429-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0003 **Customer Sample:** MFL-AM03-092624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A4	None Detected									
C1	D7	None Detected									
C1	H6	None Detected									
C2	E7	None Detected									
C2	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092624-AB**		**Sample Description:**	**DL274943**
EMSL Sample Number:	042420429-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0004 **Customer Sample:** MFL-AM07-092624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A8	None Detected									
C5	E5	None Detected									
C5	I3	None Detected									
C6	G5	None Detected									
C6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-092624-AB**		**Sample Description:**	**DL274882**
EMSL Sample Number:	042420429-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0005 **Customer Sample:** MFL-FB01-092624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J3	None Detected									
D1	H7	None Detected									
D1	E4	None Detected									
D1	B7	None Detected									
D2	I2	None Detected									
D2	G5	None Detected									
D2	D8	None Detected									
D3	J4	None Detected									
D3	F8	None Detected									
D3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092724-AB**		**Sample Description:**	**DL274878**
EMSL Sample Number:	042420429-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0006 **Customer Sample:** MFL-AM05-092724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A2	None Detected									
D5	F7	None Detected									
D5	I4	None Detected									
D6	H9	None Detected									
D6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-092724-AB** **Sample Description: DL275026**

EMSL Sample Number:	042420429-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6957.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0007 **Customer Sample:** MFL-AM02-092724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C8	None Detected									
E1	D5	None Detected									
E1	H3	None Detected									
E2	B6	None Detected									
E2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092724-AB**		**Sample Description:**	**DL275068**
EMSL Sample Number:	042420429-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0008 **Customer Sample:** MFL-AM03-092724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E6	J4	None Detected									
E6	G7	None Detected									
E6	B5	None Detected									
E7	F4	None Detected									
E7	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092724-AB**		**Sample Description:**	**DL274908**
EMSL Sample Number:	042420429-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0009 **Customer Sample:** MFL-AM07-092724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B7	None Detected									
F1	F3	None Detected									
F1	I4	None Detected									
F2	H8	None Detected									
F2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/02/2024 09:30 AM
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Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-092724-AB**		**Sample Description:**	**DL275061**
EMSL Sample Number:	042420429-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0010 **Customer Sample:** MFL-FB01-092724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I4	None Detected									
F5	G8	None Detected									
F5	E3	None Detected									
F5	C5	None Detected									
F6	A5	None Detected									
F7	B4	None Detected									
F7	D9	None Detected									
F7	F6	None Detected									
F8	A3	None Detected									
F8	E2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-092824-AB** **Sample Description:** **DL275019**

EMSL Sample Number:	042420429-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042420429**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0011 **Customer Sample:** MFL-AM05-092824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	C3	None Detected									
G1	F7	None Detected									
G1	J4	None Detected									
G2	B5	None Detected									
G2	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092824-AB**		**Sample Description:**	**DL275086**
EMSL Sample Number:	042420429-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0012 **Customer Sample:** MFL-AM02-092824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J6	None Detected									
G5	H4	None Detected									
G5	D6	None Detected									
G6	H4	None Detected									
G6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092824-AB**		**Sample Description:**	**DL267179**
EMSL Sample Number:	042420429-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0013 **Customer Sample:** MFL-AM03-092824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A4	None Detected									
H2	E7	None Detected									
H2	J4	None Detected									
H3	C4	None Detected									
H3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092824-AB**		**Sample Description:**	**DL267206**
EMSL Sample Number:	042420429-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0014 **Customer Sample:** MFL-AM07-092824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	H6	None Detected									
H5	E4	None Detected									
H5	B7	None Detected									
H6	A6	None Detected									
H6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-092824-AB**		**Sample Description:**	**DL267219**
EMSL Sample Number:	042420429-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0015 **Customer Sample:** MFL-FB01-092824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A6	None Detected									
I1	C3	None Detected									
I1	E8	None Detected									
I1	G9	None Detected									
I1	H4	None Detected									
I2	A4	None Detected									
I2	C4	None Detected									
I2	E2	None Detected									
I2	G9	None Detected									
I2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-092924-AB**		**Sample Description:**	**DL267229**
EMSL Sample Number:	042420429-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0016 **Customer Sample:** MFL-AM05-092924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B5	None Detected									
I5	E3	None Detected									
I5	H7	None Detected									
I6	A8	None Detected									
I6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-092924-AB**		**Sample Description:**	**DL267214**
EMSL Sample Number:	042420429-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0017 **Customer Sample:** MFL-AM02-092924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I5	None Detected									
J1	F4	None Detected									
J1	C3	None Detected									
J2	G4	None Detected									
J2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-092924-AB**		**Sample Description:**	**DL267227**
EMSL Sample Number:	042420429-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7210.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0018 **Customer Sample:** MFL-AM03-092924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I6	None Detected									
J5	F8	None Detected									
J5	D8	None Detected									
J6	I7	None Detected									
J6	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-092924-AB**		**Sample Description:**	**DL267178**
EMSL Sample Number:	042420429-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0019 **Customer Sample:** MFL-AM07-092924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A10	None Detected									
K1	D5	None Detected									
K1	F1	None Detected									
K2	C4	None Detected									
K2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/07/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-092924-AB**		**Sample Description:**	**DL267203**
EMSL Sample Number:	042420429-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0020 **Customer Sample:** MFL-FB01-092924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A10	None Detected									
K5	C9	None Detected									
K5	E9	None Detected									
K5	G8	None Detected									
K5	I4	None Detected									
K6	J2	None Detected									
K6	H1	None Detected									
K6	E4	None Detected									
K6	D7	None Detected									
K6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420429
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/02/2024 09:30 AM
Analysis Date:	10/03/2024
Report Date:	10/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042420429-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420429
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420429-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A3	None Detected									
A1	D5	None Detected									
A1	G2	None Detected									
A1	I6	None Detected									
A2	J7	None Detected									
A2	G4	None Detected									
A2	B5	None Detected									
A3	I8	None Detected									
A3	E4	None Detected									
A3	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042420429

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042420429

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED
24 OCT -2 AM 9:19
EMSL CINNAMINSON NJ

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-092624-AB	DL275109	7,192.301	09/26/24 1058
MFL-AM02-092624-AB	DL274964	7,185.342	09/26/24 1116
MFL-AM03-092624-AB	DL275029	7,214.602	09/26/24 1305
MFL-AM07-092624-AB	DL274943	7,206.714	09/26/24 1327
MFL-FB01-092624-AB	DL274882	0	09/26/24 1200
MFL-AM05-092724-AB	DL274878	7,230.404	09/27/24 1058
MFL-AM02-092724-AB	DL275026	6,957.506	09/27/24 1113
MFL-AM03-092724-AB	DL275068	7,177.528	09/27/24 1302

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/30/24 1100	Received by: EFX	Date/Time 10/2/24 932
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20 SD

OrderID: 042420429

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042420429

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-092724-AB	DL274908	7,177.813	09/27/24 1322
MFL-FB01-092724-AB	DL275061	0	09/27/24 1200
MFL-AM05-092824-AB	DL275019	7,122.727	09/28/24 1055
MFL-AM02-092824-AB	DL275086	7,176.554	09/28/24 1112
MFL-AM03-092824-AB	DL267179	7,133.984	09/28/24 1254
MFL-AM07-092824-AB	DL267206	7,158.138	09/28/24 1318
MFL-FB01-092824-AB	DL267219	0	09/28/24 1200
MFL-AM05-092924-AB	DL267229	7,212.433	09/29/24 1057
MFL-AM02-092924-AB	DL267214	7,237.954	09/29/24 1113
MFL-AM03-092924-AB	DL267227	7,210.515	09/29/24 1254
MFL-AM07-092924-AB	DL267178	7,163.657	09/29/24 1313
MFL-FB01-092929-AB	DL267203	0	09/29/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 OCT -2 AM 11:09

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/30/24 1100	Received by:	Date/Time 10/1/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/07/2024 and Shanna Vasser 10/08/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/26/2024 – 09/29/2024
Report No: 42420429

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420760
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/09/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-093024-AB**		**Sample Description:**	**DL267220**
EMSL Sample Number:	042420760-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0001 **Customer Sample:** MFL-AM05-093024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J4	None Detected									
B2	G7	None Detected									
B2	B9	None Detected									
B3	H3	None Detected									
B3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420760
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/09/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-093024-AB**		**Sample Description:**	**DL267171**
EMSL Sample Number:	042420760-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0002 **Customer Sample:** MFL-AM02-093024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B5	None Detected									
B5	F7	None Detected									
B5	I4	None Detected									
B6	G5	None Detected									
B6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/09/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-093024-AB**		**Sample Description:**	**DL267218**
EMSL Sample Number:	042420760-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0003 **Customer Sample:** MFL-AM03-093024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C3	I3	None Detected									
C3	H7	None Detected									
C3	B4	None Detected									
C4	G8	None Detected									
C4	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-093024-AB**		**Sample Description:**	**DL267192**
EMSL Sample Number:	042420760-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0004 **Customer Sample:** MFL-AM07-093024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A8	None Detected									
C5	D6	None Detected									
C5	I8	None Detected									
C6	B5	None Detected									
C6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-093024-AB**		**Sample Description:**	**DL267201**
EMSL Sample Number:	042420760-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0005 **Customer Sample:** MFL-FB01-093024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	E3	None Detected									
D1	F9	None Detected									
D1	G5	None Detected									
D1	I6	None Detected									
D1	I8	None Detected									
D2	H7	None Detected									
D2	F8	None Detected									
D2	E5	None Detected									
D2	C3	None Detected									
D2	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100124-AB**		**Sample Description:**	**DL267198**
EMSL Sample Number:	042420760-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7261.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0006 **Customer Sample:** MFL-AM05-100124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B4	None Detected									
D5	E7	None Detected									
D5	G7	None Detected									
D6	C8	None Detected									
D6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420760
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100124-AB**		**Sample Description:**	**DL267200**
EMSL Sample Number:	042420760-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0007 **Customer Sample:** MFL-AM02-100124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	D9	None Detected									
E1	F8	None Detected									
E1	I5	None Detected									
E2	G5	None Detected									
E2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100124-AB**		**Sample Description:**	**DL267204**
EMSL Sample Number:	042420760-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0008 **Customer Sample:** MFL-AM03-100124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H5	None Detected									
E5	E3	None Detected									
E5	C6	None Detected									
E6	H8	None Detected									
E6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100124-AB**		**Sample Description:**	**DL267187**
EMSL Sample Number:	042420760-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0009 **Customer Sample:** MFL-AM07-100124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	H8	None Detected									
F2	E2	None Detected									
F2	C3	None Detected									
F3	C6	None Detected									
F3	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042420760
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100124-AB**		**Sample Description:**	**DL267174**
EMSL Sample Number:	042420760-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0010 **Customer Sample:** MFL-FB01-100124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J6	None Detected									
F5	H5	None Detected									
F5	F8	None Detected									
F5	D3	None Detected									
F5	B4	None Detected									
F6	J7	None Detected									
F6	H5	None Detected									
F6	F3	None Detected									
F6	D5	None Detected									
F6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100224-AB**		**Sample Description:**	**DL267164**
EMSL Sample Number:	042420760-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0011 **Customer Sample:** MFL-AM05-100224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	G7	None Detected									
G1	E9	None Detected									
G1	B4	None Detected									
G2	G1	None Detected									
G2	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100224-AB**		**Sample Description:**	**DL267194**
EMSL Sample Number:	042420760-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7098.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0012 **Customer Sample:** MFL-AM02-100224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I3	None Detected									
G5	F3	None Detected									
G5	D5	None Detected									
G6	C8	None Detected									
G6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/11/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100224-AB**		**Sample Description:**	**DL267202**
EMSL Sample Number:	042420760-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7247.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0013 **Customer Sample:** MFL-AM03-100224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	C9	None Detected									
H1	E7	None Detected									
H1	G9	None Detected									
H2	D8	None Detected									
H2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	10/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100224-AB**		**Sample Description:**	**DL267210**
EMSL Sample Number:	042420760-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0014 **Customer Sample:** MFL-AM07-100224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	H4	None Detected									
H5	F2	None Detected									
H5	C3	None Detected									
H7	B6	None Detected									
H7	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100224-AB**	**Sample Description:**	**DL267123**
EMSL Sample Number:	042420760-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042420760
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0015 **Customer Sample:** MFL-FB01-100224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J1	None Detected									
I1	H3	None Detected									
I1	F4	None Detected									
I1	D3	None Detected									
I1	B6	None Detected									
I2	A5	None Detected									
I2	C6	None Detected									
I2	E3	None Detected									
I2	G5	None Detected									
I2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042420760
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/07/2024 09:00 AM
Analysis Date:	10/09/2024
Report Date:	10/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042420760-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042420760**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042420760-0016 LB **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A10	None Detected									
A1	C7	None Detected									
A1	G4	None Detected									
A1	I7	None Detected									
A2	B6	None Detected									
A2	C9	None Detected									
A2	J6	None Detected									
A3	A7	None Detected									
A3	D3	None Detected									
A3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042420760

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042420760

RECEIVED EMSL CINNAMINSON, N.J. 2024 OCT -7 A 9:31

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-093024-AB	DL267220	7,155.803	09/30/24 1056
MFL-AM02-093024-AB	DL267171	7,149.350	09/30/24 1111
MFL-AM03-093024-AB	DL267218	7,195.019	09/30/24 1301
MFL-AM07-093024-AB	DL267192	7,242.589	09/30/24 1319
MFL-FB01-093024-AB	DL267201	0	09/30/24 1200
MFL-AM05-100124-AB	DL267198	7,261.141	10/01/24 1107
MFL-AM02-100124-AB	DL267200	7,162.871	10/01/24 1125
MFL-AM03-100124-AB	DL267204	7,163.007	10/01/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex

Relinquished by: Date/Time: 10/03/24 1100
Relinquished by: Date/Time:

Sample Condition Upon Receipt:
Received by: FX Date/Time: 10/7/24 9:00am
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of 15/15

OrderID: 042420760

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only:

#042420760

RECEIVED EMSL CINNAMINSON, N.J.

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

2024 OCT -1 A 9:31

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-100124-AB	DL267187	7,149.781	10/01/24 1316
MFL-FB01-100129-AB	DL267174	0	10/01/24 1200
MFL-AM05-100224-AB	DL267164	7,175.025	10/02/24 1102
MFL-AM02-100224-AB	DL267194	7,098.520	10/02/24 1117
MFL-AM03-100224-AB	DL267202	7,297.236	10/02/24 1257
MFL-AM07-100224-AB	DL267210	7,269.557	10/02/24 1321
MFL-FB01-100224-AB	DL267123	0	10/02/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/03/24 1100	Received by: FX	Date/Time: 10/7/24 9:00a
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

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Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/15/2024 and Shanna Vasser 10/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/30/2024 – 10/02/2024
Report No: 42420760

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 16, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 10/07/24 12:28.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-092624-HM	4100748-01	Air	09/26/24 23:59	10/07/24 12:28
MFL-AM02-092624-HM	4100748-02	Air	09/26/24 23:59	10/07/24 12:28
MFL-AM03-092624-HM	4100748-03	Air	09/26/24 23:59	10/07/24 12:28
MFL-AM07-092624-HM	4100748-04	Air	09/26/24 23:59	10/07/24 12:28
MFL-AM05-092724-HM	4100748-05	Air	09/27/24 23:59	10/07/24 12:28
MFL-AM02-092724-HM	4100748-06	Air	09/27/24 23:59	10/07/24 12:28
MFL-AM03-092724-HM	4100748-07	Air	09/27/24 23:59	10/07/24 12:28
MFL-AM07-092724-HM	4100748-08	Air	09/27/24 23:59	10/07/24 12:28
MFL-FB01-092724-HM	4100748-09	Air	09/27/24 00:00	10/07/24 12:28
MFL-AM05-092824-HM	4100748-10	Air	09/28/24 23:59	10/07/24 12:28
MFL-AM02-092824-HM	4100748-11	Air	09/28/24 23:59	10/07/24 12:28
MFL-AM03-092824-HM	4100748-12	Air	09/28/24 23:59	10/07/24 12:28
MFL-AM07-092824-HM	4100748-13	Air	09/28/24 23:59	10/07/24 12:28
MFL-AM05-092924-HM	4100748-14	Air	09/29/24 23:59	10/07/24 12:28
MFL-AM02-092924-HM	4100748-15	Air	09/29/24 23:59	10/07/24 12:28
MFL-AM03-092924-HM	4100748-16	Air	09/29/24 23:59	10/07/24 12:28
MFL-AM07-092924-HM	4100748-17	Air	09/29/24 23:59	10/07/24 12:28
MFL-FB01-092924-HM	4100748-18	Air	09/29/24 00:00	10/07/24 12:28
MFL-AM05-093024-HM	4100748-19	Air	09/30/24 23:59	10/07/24 12:28
MFL-AM02-093024-HM	4100748-20	Air	09/30/24 23:59	10/07/24 12:28
MFL-AM03-093024-HM	4100748-21	Air	09/30/24 23:59	10/07/24 12:28

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-093024-HM	4100748-22	Air	09/30/24 23:59	10/07/24 12:28
MFL-AM05-100124-HM	4100748-23	Air	10/01/24 23:59	10/07/24 12:28
MFL-AM02-100124-HM	4100748-24	Air	10/01/24 23:59	10/07/24 12:28
MFL-AM03-100124-HM	4100748-25	Air	10/01/24 23:59	10/07/24 12:28
MFL-AM07-100124-HM	4100748-26	Air	10/01/24 23:59	10/07/24 12:28
MFL-FB01-100124-HM	4100748-27	Air	10/01/24 00:00	10/07/24 12:28
MFL-AM05-100224-HM	4100748-28	Air	10/02/24 23:59	10/07/24 12:28
MFL-AM02-100224-HM	4100748-29	Air	10/02/24 23:59	10/07/24 12:28
MFL-AM03-100224-HM	4100748-30	Air	10/02/24 23:59	10/07/24 12:28
MFL-AM07-100224-HM	4100748-31	Air	10/02/24 23:59	10/07/24 12:28
MFL-LB01-100224-HM	4100748-32	Air	10/02/24 00:00	10/07/24 12:28

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092624-HM
Matrix: Air
Lab ID: 4100748-01
Sample Volume: 1899.232 m³
Filter ID:
Sampled: 09/26/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 03:03

Comments: Q9540550 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0751**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.220**		**0.00803**
Barium	**7440-39-3**	**3.77**		**0.917**
Beryllium	**7440-41-7**	**0.0102**		**0.00274**
Cadmium	7440-43-9	0.0167	U	0.0635
Chromium	**7440-47-3**	**2.93**		**1.89**
Cobalt	**7440-48-4**	**0.375**		**0.0374**
Copper	**7440-50-8**	**60.7**		**2.25**
Lead	**7439-92-1**	**0.487**		**0.183**
Manganese	**7439-96-5**	**10.6**		**1.62**
Molybdenum	**7439-98-7**	**3.00**		**0.308**
Nickel	**7440-02-0**	**1.28**		**0.559**
Selenium	**7782-49-2**	**0.181**	LJ, QX	**0.00768**
Thallium	**7440-28-0**	**9.37E-4**		**5.05E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0453**
Zinc	7440-66-6	15.4	U	65.8

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092624-HM
Matrix: Air
Lab ID: 4100748-02
Sample Volume: 2012.451 m³
Filter ID:
Sampled: 09/26/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/08/24 19:52

Comments: Q9540549 - MS/MSD Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.273**		**0.00758**
Barium	**7440-39-3**	**5.71**		**0.865**
Beryllium	**7440-41-7**	**0.0147**		**0.00259**
Cadmium	7440-43-9	0.0368	U	0.0599
Chromium	**7440-47-3**	**3.39**		**1.79**
Cobalt	**7440-48-4**	**0.533**		**0.0352**
Copper	**7440-50-8**	**31.8**		**2.13**
Lead	**7439-92-1**	**0.798**		**0.173**
Manganese	**7439-96-5**	**16.3**		**1.53**
Molybdenum	**7439-98-7**	**1.76**		**0.290**
Nickel	**7440-02-0**	**1.56**		**0.527**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00724**
Thallium	**7440-28-0**	**0.00106**	QB-04	**4.76E-4**
Vanadium	**7440-62-2**	**1.71**		**0.0428**
Zinc	**7440-66-6**	**85.9**		**62.1**

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092624-HM
Matrix: Air
Lab ID: 4100748-03
Sample Volume: 1956.387 m³
Filter ID:
Sampled: 09/26/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 03:23

Comments: Q9540547 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0450**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.183**		**0.00779**
Barium	**7440-39-3**	**3.45**		**0.890**
Beryllium	**7440-41-7**	**0.0472**		**0.00266**
Cadmium	7440-43-9	0.0226	U	0.0616
Chromium	**7440-47-3**	**3.33**		**1.84**
Cobalt	**7440-48-4**	**0.633**		**0.0363**
Copper	**7440-50-8**	**37.8**		**2.19**
Lead	**7439-92-1**	**0.274**		**0.178**
Manganese	**7439-96-5**	**14.7**		**1.57**
Molybdenum	**7439-98-7**	**2.16**		**0.299**
Nickel	**7440-02-0**	**1.54**		**0.542**
Selenium	**7782-49-2**	**0.199**	LJ, QX	**0.00745**
Thallium	**7440-28-0**	**9.78E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0440**
Zinc	7440-66-6	12.2	U	63.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092624-HM
Matrix: Air
Lab ID: 4100748-04
Sample Volume: 1967.496 m³
Filter ID:
Sampled: 09/26/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 03:43

Comments: Q9540545 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0656**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.536**		**0.00775**
Barium	**7440-39-3**	**2.55**		**0.885**
Beryllium	**7440-41-7**	**0.00764**		**0.00265**
Cadmium	7440-43-9	0.0111	U	0.0613
Chromium	**7440-47-3**	**2.94**		**1.83**
Cobalt	**7440-48-4**	**0.386**		**0.0361**
Copper	**7440-50-8**	**22.0**		**2.17**
Lead	**7439-92-1**	**0.250**		**0.177**
Manganese	**7439-96-5**	**10.6**		**1.56**
Molybdenum	**7439-98-7**	**1.51**		**0.297**
Nickel	**7440-02-0**	**1.33**		**0.539**
Selenium	**7782-49-2**	**0.154**	LJ, QX	**0.00741**
Thallium	**7440-28-0**	**8.03E-4**		**4.87E-4**
Vanadium	**7440-62-2**	**0.959**		**0.0437**
Zinc	7440-66-6	9.30	U	63.5

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092724-HM
Matrix: Air
Lab ID: 4100748-05
Sample Volume: 1983.38 m³
Filter ID:
Sampled: 09/27/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 03:59

Comments: Q9540543 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0770**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.388**		**0.00769**
Barium	**7440-39-3**	**3.76**		**0.878**
Beryllium	**7440-41-7**	**0.0106**		**0.00263**
Cadmium	**7440-43-9**	**0.0890**		**0.0608**
Chromium	**7440-47-3**	**2.60**		**1.81**
Cobalt	**7440-48-4**	**0.374**		**0.0358**
Copper	**7440-50-8**	**53.5**		**2.16**
Lead	**7439-92-1**	**0.677**		**0.176**
Manganese	**7439-96-5**	**11.6**		**1.55**
Molybdenum	**7439-98-7**	**2.46**		**0.294**
Nickel	**7440-02-0**	**1.24**		**0.535**
Selenium	**7782-49-2**	**0.183**	LJ, QX	**0.00735**
Thallium	**7440-28-0**	**0.00109**		**4.83E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0434**
Zinc	7440-66-6	17.4	U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092724-HM
Matrix: Air
Lab ID: 4100748-06
Sample Volume: 2002.381 m³
Filter ID:
Sampled: 09/27/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 04:19

Comments: Q9540542 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0944**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.311**		**0.00761**
Barium	**7440-39-3**	**6.26**		**0.869**
Beryllium	**7440-41-7**	**0.0204**		**0.00260**
Cadmium	7440-43-9	0.0127	U	0.0602
Chromium	**7440-47-3**	**4.37**		**1.80**
Cobalt	**7440-48-4**	**0.867**		**0.0354**
Copper	**7440-50-8**	**27.5**		**2.14**
Lead	**7439-92-1**	**0.648**		**0.174**
Manganese	**7439-96-5**	**21.5**		**1.54**
Molybdenum	**7439-98-7**	**1.46**		**0.292**
Nickel	**7440-02-0**	**2.58**		**0.530**
Selenium	**7782-49-2**	**0.215**	LJ, QX	**0.00728**
Thallium	**7440-28-0**	**0.00122**		**4.79E-4**
Vanadium	**7440-62-2**	**2.83**		**0.0430**
Zinc	7440-66-6	16.9	U	62.4

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Tetra Tech, Inc.
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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092724-HM
Matrix: Air
Lab ID: 4100748-07
Sample Volume: 2051.359 m³
Filter ID:
Sampled: 09/27/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 04:38

Comments: Q9540540 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0326**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.131**		**0.00743**
Barium	**7440-39-3**	**2.69**		**0.849**
Beryllium	**7440-41-7**	**0.0199**		**0.00254**
Cadmium	7440-43-9	0.0223	U	0.0588
Chromium	**7440-47-3**	**2.66**		**1.75**
Cobalt	**7440-48-4**	**0.394**		**0.0346**
Copper	**7440-50-8**	**39.4**		**2.09**
Lead	**7439-92-1**	**0.212**		**0.170**
Manganese	**7439-96-5**	**10.8**		**1.50**
Molybdenum	**7439-98-7**	**2.44**		**0.285**
Nickel	**7440-02-0**	**1.46**		**0.517**
Selenium	**7782-49-2**	**0.160**	LJ, QX	**0.00711**
Thallium	**7440-28-0**	**7.75E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0420**
Zinc	7440-66-6	10.2	U	60.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092724-HM
Matrix: Air
Lab ID: 4100748-08
Sample Volume: 1938.915 m³
Filter ID:
Sampled: 09/27/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 04:58

Comments: Q9540539 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0943**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.224**		**0.00786**
Barium	**7440-39-3**	**2.96**		**0.898**
Beryllium	**7440-41-7**	**0.0133**		**0.00269**
Cadmium	7440-43-9	0.0400	U	0.0622
Chromium	**7440-47-3**	**45.3**		**1.85**
Cobalt	**7440-48-4**	**0.985**		**0.0366**
Copper	**7440-50-8**	**38.7**		**2.21**
Lead	**7439-92-1**	**0.329**		**0.180**
Manganese	**7439-96-5**	**18.6**		**1.59**
Molybdenum	**7439-98-7**	**3.19**		**0.301**
Nickel	**7440-02-0**	**21.9**		**0.547**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00752**
Thallium	**7440-28-0**	**0.00115**		**4.94E-4**
Vanadium	**7440-62-2**	**1.59**		**0.0444**
Zinc	7440-66-6	11.6	U	64.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-092724-HM
Matrix: Air
Lab ID: 4100748-09
Sample Volume: 1983.38 m³
Filter ID:
Sampled: 09/27/24 00:00
Received: 10/07/24 12:28
Analysis Date: 10/09/24 05:18

Comments: Q9540537 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00766	SL, U	0.0317
Arsenic	7440-38-2	0.00402	U	0.00769
Barium	7440-39-3	0.549	U	0.878
Beryllium	7440-41-7	2.72E-4	U	0.00263
Cadmium	7440-43-9	0.00179	U	0.0608
Chromium	7440-47-3	1.44	U	1.81
Cobalt	7440-48-4	0.0278	U	0.0358
Copper	7440-50-8	0.282	U	2.16
Lead	7439-92-1	0.0431	U	0.176
Manganese	7439-96-5	0.186	U	1.55
Molybdenum	7439-98-7	0.232	U	0.294
Nickel	7440-02-0	0.364	U	0.535
Selenium	7782-49-2	ND	LJ, QX, U	0.00735
Thallium	7440-28-0	3.96E-5	U	4.83E-4
Vanadium	7440-62-2	0.00641	U	0.0434
Zinc	7440-66-6	6.31	U	63.0

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092824-HM
Matrix: Air
Lab ID: 4100748-10
Sample Volume: 2045.705 m³
Filter ID:
Sampled: 09/28/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 05:36

Comments: Q9540538 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0777**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.249**		**0.00745**
Barium	**7440-39-3**	**3.38**		**0.851**
Beryllium	**7440-41-7**	**0.00770**		**0.00255**
Cadmium	7440-43-9	0.0243	U	0.0589
Chromium	**7440-47-3**	**2.38**		**1.76**
Cobalt	**7440-48-4**	**0.320**		**0.0347**
Copper	**7440-50-8**	**37.6**		**2.09**
Lead	**7439-92-1**	**0.434**		**0.170**
Manganese	**7439-96-5**	**9.19**		**1.50**
Molybdenum	**7439-98-7**	**1.90**		**0.286**
Nickel	**7440-02-0**	**1.21**		**0.519**
Selenium	**7782-49-2**	**0.199**	LJ, QX	**0.00713**
Thallium	**7440-28-0**	**0.00105**		**4.68E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0421**
Zinc	7440-66-6	31.3	U	61.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092824-HM
Matrix: Air
Lab ID: 4100748-11
Sample Volume: 2098.623 m³
Filter ID:
Sampled: 09/28/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 07:12

Comments: Q9540536 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.245**		**0.00726**
Barium	**7440-39-3**	**4.78**		**0.830**
Beryllium	**7440-41-7**	**0.0121**		**0.00248**
Cadmium	7440-43-9	0.0107	U	0.0574
Chromium	**7440-47-3**	**2.73**		**1.71**
Cobalt	**7440-48-4**	**0.439**		**0.0338**
Copper	**7440-50-8**	**19.7**		**2.04**
Lead	**7439-92-1**	**0.671**		**0.166**
Manganese	**7439-96-5**	**13.1**		**1.47**
Molybdenum	**7439-98-7**	**1.22**		**0.278**
Nickel	**7440-02-0**	**1.37**		**0.505**
Selenium	**7782-49-2**	**0.229**	LJ, QX	**0.00695**
Thallium	**7440-28-0**	**0.00123**		**4.57E-4**
Vanadium	**7440-62-2**	**1.70**		**0.0410**
Zinc	7440-66-6	14.5	U	59.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092824-HM
Matrix: Air
Lab ID: 4100748-12
Sample Volume: 1906.808 m³
Filter ID:
Sampled: 09/28/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 07:31

Comments: Q9540535 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0409**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.352**		**0.00800**
Barium	**7440-39-3**	**6.58**		**0.913**
Beryllium	**7440-41-7**	**0.0979**		**0.00273**
Cadmium	7440-43-9	0.0159	U	0.0632
Chromium	**7440-47-3**	**7.09**		**1.89**
Cobalt	**7440-48-4**	**1.49**		**0.0372**
Copper	**7440-50-8**	**39.4**		**2.24**
Lead	**7439-92-1**	**0.429**		**0.183**
Manganese	**7439-96-5**	**35.7**		**1.61**
Molybdenum	**7439-98-7**	**2.29**		**0.306**
Nickel	**7440-02-0**	**3.55**		**0.556**
Selenium	**7782-49-2**	**0.339**	LJ, QX	**0.00765**
Thallium	**7440-28-0**	**0.00232**		**5.03E-4**
Vanadium	**7440-62-2**	**4.02**		**0.0451**
Zinc	7440-66-6	11.2	U	65.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092824-HM
Matrix: Air
Lab ID: 4100748-13
Sample Volume: 1788.267 m³
Filter ID:
Sampled: 09/28/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 07:51

Comments: Q9540533 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0633**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.261**		**0.00853**
Barium	**7440-39-3**	**2.35**		**0.974**
Beryllium	**7440-41-7**	**0.00734**		**0.00291**
Cadmium	7440-43-9	0.0265	U	0.0674
Chromium	**7440-47-3**	**4.24**		**2.01**
Cobalt	**7440-48-4**	**0.292**		**0.0397**
Copper	**7440-50-8**	**28.5**		**2.39**
Lead	**7439-92-1**	**0.262**		**0.195**
Manganese	**7439-96-5**	**8.89**		**1.72**
Molybdenum	**7439-98-7**	**2.07**		**0.327**
Nickel	**7440-02-0**	**2.26**		**0.593**
Selenium	**7782-49-2**	**0.177**	LJ, QX	**0.00815**
Thallium	**7440-28-0**	**0.00104**		**5.36E-4**
Vanadium	**7440-62-2**	**0.997**		**0.0481**
Zinc	7440-66-6	9.25	U	69.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-092924-HM
Matrix: Air
Lab ID: 4100748-14
Sample Volume: 1962.569 m³
Filter ID:
Sampled: 09/29/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 08:07

Comments: Q9540532 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0484**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.154**		**0.00777**
Barium	**7440-39-3**	**2.94**		**0.887**
Beryllium	**7440-41-7**	**0.00812**		**0.00265**
Cadmium	7440-43-9	0.0131	U	0.0614
Chromium	**7440-47-3**	**2.74**		**1.83**
Cobalt	**7440-48-4**	**0.268**		**0.0361**
Copper	**7440-50-8**	**50.5**		**2.18**
Lead	**7439-92-1**	**0.339**		**0.177**
Manganese	**7439-96-5**	**8.47**		**1.57**
Molybdenum	**7439-98-7**	**2.80**		**0.298**
Nickel	**7440-02-0**	**1.12**		**0.541**
Selenium	**7782-49-2**	**0.181**	LJ, QX	**0.00743**
Thallium	**7440-28-0**	**8.44E-4**		**4.88E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0439**
Zinc	7440-66-6	8.07	U	63.7

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-092924-HM
Matrix: Air
Lab ID: 4100748-15
Sample Volume: 2025.833 m³
Filter ID:
Sampled: 09/29/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 08:24

Comments: Q9540529 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.297**		**0.00753**
Barium	**7440-39-3**	**4.51**		**0.859**
Beryllium	**7440-41-7**	**0.00995**		**0.00257**
Cadmium	7440-43-9	0.00938	U	0.0595
Chromium	**7440-47-3**	**2.35**		**1.77**
Cobalt	**7440-48-4**	**0.332**		**0.0350**
Copper	**7440-50-8**	**21.4**		**2.11**
Lead	**7439-92-1**	**0.529**		**0.172**
Manganese	**7439-96-5**	**10.7**		**1.52**
Molybdenum	**7439-98-7**	**1.45**		**0.288**
Nickel	**7440-02-0**	**1.07**		**0.524**
Selenium	**7782-49-2**	**0.214**	LJ, QX	**0.00720**
Thallium	**7440-28-0**	**9.85E-4**		**4.73E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0425**
Zinc	7440-66-6	11.9	U	61.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-092924-HM **Lab ID:** 4100748-16 **Sampled:** 09/29/24 23:59
Matrix: Air **Sample Volume:** 1859.609 m³ **Received:** 10/07/24 12:28
Filter ID: **Analysis Date:** 10/09/24 08:43

Comments: Q9540528 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0286	SL, U	0.0338
Arsenic	**7440-38-2**	**0.121**		**0.00820**
Barium	**7440-39-3**	**2.31**		**0.936**
Beryllium	**7440-41-7**	**0.0140**		**0.00280**
Cadmium	7440-43-9	0.00693	U	0.0648
Chromium	**7440-47-3**	**2.76**		**1.93**
Cobalt	**7440-48-4**	**0.336**		**0.0381**
Copper	**7440-50-8**	**39.0**		**2.30**
Lead	**7439-92-1**	**0.225**		**0.187**
Manganese	**7439-96-5**	**8.34**		**1.65**
Molybdenum	**7439-98-7**	**2.23**		**0.314**
Nickel	**7440-02-0**	**1.14**		**0.570**
Selenium	**7782-49-2**	**0.141**	LJ, QX	**0.00784**
Thallium	**7440-28-0**	**6.65E-4**		**5.15E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0463**
Zinc	7440-66-6	7.73	U	67.2

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-092924-HM
Matrix: Air
Lab ID: 4100748-17
Sample Volume: 1936.473 m³
Filter ID:
Sampled: 09/29/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 09:03

Comments: Q9540525 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0475**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.129**		**0.00787**
Barium	**7440-39-3**	**1.97**		**0.899**
Beryllium	**7440-41-7**	**0.00699**		**0.00269**
Cadmium	7440-43-9	0.00593	U	0.0623
Chromium	**7440-47-3**	**9.48**		**1.86**
Cobalt	**7440-48-4**	**0.367**		**0.0366**
Copper	**7440-50-8**	**26.7**		**2.21**
Lead	**7439-92-1**	**0.193**		**0.180**
Manganese	**7439-96-5**	**8.70**		**1.59**
Molybdenum	**7439-98-7**	**1.62**		**0.302**
Nickel	**7440-02-0**	**4.59**		**0.548**
Selenium	**7782-49-2**	**0.149**	LJ, QX	**0.00753**
Thallium	**7440-28-0**	**6.85E-4**		**4.95E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0444**
Zinc	7440-66-6	6.25	U	64.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-092924-HM
Matrix: Air
Lab ID: 4100748-18
Sample Volume: 1962.569 m³
Filter ID:
Sampled: 09/29/24 00:00
Received: 10/07/24 12:28
Analysis Date: 10/09/24 09:18

Comments: Q9540522 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0242	SL, U	0.0320
Arsenic	7440-38-2	0.00520	U	0.00777
Barium	7440-39-3	0.486	U	0.887
Beryllium	7440-41-7	2.11E-4	U	0.00265
Cadmium	7440-43-9	0.00192	U	0.0614
Chromium	7440-47-3	1.26	U	1.83
Cobalt	7440-48-4	0.0265	U	0.0361
Copper	7440-50-8	1.26	U	2.18
Lead	7439-92-1	0.0648	U	0.177
Manganese	7439-96-5	0.249	U	1.57
Molybdenum	7439-98-7	0.207	U	0.298
Nickel	7440-02-0	0.335	U	0.541
Selenium	7782-49-2	0.00376	LJ, QX, U	0.00743
Thallium	7440-28-0	6.11E-5	U	4.88E-4
Vanadium	7440-62-2	0.0164	U	0.0439
Zinc	7440-66-6	13.6	U	63.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-093024-HM
Matrix: Air
Lab ID: 4100748-19
Sample Volume: 2003.334 m³
Filter ID:
Sampled: 09/30/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 09:32

Comments: Q9540524 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0976**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.239**		**0.00761**
Barium	**7440-39-3**	**3.23**		**0.869**
Beryllium	**7440-41-7**	**0.00644**		**0.00260**
Cadmium	**7440-43-9**	**0.197**		**0.0602**
Chromium	**7440-47-3**	**2.02**		**1.79**
Cobalt	**7440-48-4**	**0.212**		**0.0354**
Copper	**7440-50-8**	**52.2**		**2.14**
Lead	**7439-92-1**	**0.583**		**0.174**
Manganese	**7439-96-5**	**6.43**		**1.53**
Molybdenum	**7439-98-7**	**2.66**		**0.292**
Nickel	**7440-02-0**	**0.836**		**0.530**
Selenium	**7782-49-2**	**0.145**	LJ, QX	**0.00728**
Thallium	**7440-28-0**	**9.35E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**0.907**		**0.0430**
Zinc	7440-66-6	11.1	U	62.4

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-093024-HM
Matrix: Air
Lab ID: 4100748-20
Sample Volume: 2040.832 m³
Filter ID:
Sampled: 09/30/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 09:51

Comments: Q9540523 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0889**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.311**		**0.00747**
Barium	**7440-39-3**	**4.67**		**0.853**
Beryllium	**7440-41-7**	**0.0130**		**0.00255**
Cadmium	7440-43-9	0.0116	U	0.0591
Chromium	**7440-47-3**	**2.38**		**1.76**
Cobalt	**7440-48-4**	**0.383**		**0.0348**
Copper	**7440-50-8**	**26.0**		**2.10**
Lead	**7439-92-1**	**1.15**		**0.171**
Manganese	**7439-96-5**	**12.0**		**1.51**
Molybdenum	**7439-98-7**	**1.52**		**0.286**
Nickel	**7440-02-0**	**1.19**		**0.520**
Selenium	**7782-49-2**	**0.166**	LJ, QX	**0.00714**
Thallium	**7440-28-0**	**7.04E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0422**
Zinc	7440-66-6	16.6	U	61.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-093024-HM
Matrix: Air
Lab ID: 4100748-21
Sample Volume: 2048.284 m³
Filter ID:
Sampled: 09/30/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 11:04

Comments: Q9540521 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0382**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.121**		**0.00744**
Barium	**7440-39-3**	**2.44**		**0.850**
Beryllium	**7440-41-7**	**0.0230**		**0.00254**
Cadmium	7440-43-9	0.00841	U	0.0589
Chromium	**7440-47-3**	**2.63**		**1.76**
Cobalt	**7440-48-4**	**0.358**		**0.0346**
Copper	**7440-50-8**	**41.8**		**2.09**
Lead	**7439-92-1**	**0.240**		**0.170**
Manganese	**7439-96-5**	**8.94**		**1.50**
Molybdenum	**7439-98-7**	**2.30**		**0.285**
Nickel	**7440-02-0**	**1.18**		**0.518**
Selenium	**7782-49-2**	**0.117**	LJ, QX	**0.00712**
Thallium	**7440-28-0**	**7.32E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**0.990**		**0.0420**
Zinc	7440-66-6	8.08	U	61.0

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-093024-HM
Matrix: Air
Lab ID: 4100748-22
Sample Volume: 1928.87 m³
Filter ID:
Sampled: 09/30/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 00:09

Comments: Q9540520 - MS/MSD Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0673**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.186**		**0.00790**
Barium	**7440-39-3**	**3.93**		**0.903**
Beryllium	**7440-41-7**	**0.0195**		**0.00270**
Cadmium	7440-43-9	0.0128	U	0.0625
Chromium	**7440-47-3**	**4.56**	QM-07	**1.86**
Cobalt	**7440-48-4**	**0.472**	D-F	**0.0368**
Copper	**7440-50-8**	**34.1**	QM-07	**2.22**
Lead	**7439-92-1**	**0.250**		**0.181**
Manganese	**7439-96-5**	**15.1**	QM-07	**1.59**
Molybdenum	**7439-98-7**	**1.85**	QM-07	**0.303**
Nickel	**7440-02-0**	**3.43**	D-F, QM-07	**0.550**
Selenium	**7782-49-2**	**0.162**	LJ, QX	**0.00756**
Thallium	**7440-28-0**	**0.00116**		**4.97E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0446**
Zinc	7440-66-6	10.2	U	64.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100124-HM
Matrix: Air
Lab ID: 4100748-23
Sample Volume: 2109.918 m³
Filter ID:
Sampled: 10/01/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 11:18

Comments: Q9540519 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0806**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.242**		**0.00723**
Barium	**7440-39-3**	**3.09**		**0.825**
Beryllium	**7440-41-7**	**0.00799**		**0.00247**
Cadmium	**7440-43-9**	**0.0869**		**0.0571**
Chromium	**7440-47-3**	**2.32**		**1.70**
Cobalt	**7440-48-4**	**0.303**		**0.0336**
Copper	**7440-50-8**	**49.3**		**2.03**
Lead	**7439-92-1**	**0.582**		**0.165**
Manganese	**7439-96-5**	**9.00**		**1.46**
Molybdenum	**7439-98-7**	**2.60**		**0.277**
Nickel	**7440-02-0**	**1.26**		**0.503**
Selenium	**7782-49-2**	**0.189**	LJ, QX	**0.00691**
Thallium	**7440-28-0**	**8.27E-4**		**4.54E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0408**
Zinc	7440-66-6	15.8	U	59.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100124-HM
Matrix: Air
Lab ID: 4100748-24
Sample Volume: 2064.392 m³
Filter ID:
Sampled: 10/01/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 11:35

Comments: Q9540513 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.263**		**0.00738**
Barium	**7440-39-3**	**4.17**		**0.843**
Beryllium	**7440-41-7**	**0.0116**		**0.00252**
Cadmium	7440-43-9	0.00800	U	0.0584
Chromium	**7440-47-3**	**2.42**		**1.74**
Cobalt	**7440-48-4**	**0.417**		**0.0344**
Copper	**7440-50-8**	**18.0**		**2.07**
Lead	**7439-92-1**	**0.566**		**0.169**
Manganese	**7439-96-5**	**12.1**		**1.49**
Molybdenum	**7439-98-7**	**1.23**		**0.283**
Nickel	**7440-02-0**	**1.30**		**0.514**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00706**
Thallium	**7440-28-0**	**6.72E-4**		**4.64E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0417**
Zinc	7440-66-6	10.2	U	60.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100124-HM
Matrix: Air
Lab ID: 4100748-25
Sample Volume: 2053.083 m³
Filter ID:
Sampled: 10/01/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 11:52

Comments: Q9540512 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0447**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.160**		**0.00743**
Barium	**7440-39-3**	**3.17**		**0.848**
Beryllium	**7440-41-7**	**0.0339**		**0.00254**
Cadmium	7440-43-9	0.00976	U	0.0587
Chromium	**7440-47-3**	**3.28**		**1.75**
Cobalt	**7440-48-4**	**0.624**		**0.0346**
Copper	**7440-50-8**	**44.6**		**2.08**
Lead	**7439-92-1**	**0.255**		**0.170**
Manganese	**7439-96-5**	**13.7**		**1.50**
Molybdenum	**7439-98-7**	**2.29**		**0.284**
Nickel	**7440-02-0**	**1.79**		**0.517**
Selenium	**7782-49-2**	**0.188**	LJ, QX	**0.00710**
Thallium	**7440-28-0**	**8.72E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0419**
Zinc	7440-66-6	8.51	U	60.9

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100124-HM
Matrix: Air
Lab ID: 4100748-26
Sample Volume: 1942.985 m³
Filter ID:
Sampled: 10/01/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 12:07

Comments: Q9540511 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0689**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.179**		**0.00785**
Barium	**7440-39-3**	**2.34**		**0.896**
Beryllium	**7440-41-7**	**0.00770**		**0.00268**
Cadmium	7440-43-9	0.0102	U	0.0620
Chromium	**7440-47-3**	**14.1**		**1.85**
Cobalt	**7440-48-4**	**0.450**		**0.0365**
Copper	**7440-50-8**	**31.2**		**2.20**
Lead	**7439-92-1**	**0.265**		**0.179**
Manganese	**7439-96-5**	**10.7**		**1.58**
Molybdenum	**7439-98-7**	**2.28**		**0.301**
Nickel	**7440-02-0**	**6.27**		**0.546**
Selenium	**7782-49-2**	**0.179**	LJ, QX	**0.00750**
Thallium	**7440-28-0**	**7.51E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0443**
Zinc	7440-66-6	8.35	U	64.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-100124-HM
Matrix: Air
Lab ID: 4100748-27
Sample Volume: 2109.918 m³
Filter ID:
Sampled: 10/01/24 00:00
Received: 10/07/24 12:28
Analysis Date: 10/09/24 12:23

Comments: Q8522553 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0181	SL, U	0.0298
Arsenic	7440-38-2	0.00394	U	0.00723
Barium	7440-39-3	0.814	U	0.825
Beryllium	7440-41-7	3.18E-6	U	0.00247
Cadmium	7440-43-9	8.67E-4	U	0.0571
Chromium	7440-47-3	0.839	U	1.70
Cobalt	7440-48-4	0.0120	U	0.0336
Copper	7440-50-8	0.575	U	2.03
Lead	7439-92-1	0.0278	U	0.165
Manganese	7439-96-5	0.190	U	1.46
Molybdenum	7439-98-7	0.151	U	0.277
Nickel	7440-02-0	0.390	U	0.503
Selenium	7782-49-2	0.00239	LJ, QX, U	0.00691
Thallium	7440-28-0	6.30E-5	U	4.54E-4
Vanadium	7440-62-2	0.0100	U	0.0408
Zinc	7440-66-6	3.23	U	59.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100224-HM
Matrix: Air
Lab ID: 4100748-28
Sample Volume: 2036.278 m³
Filter ID:
Sampled: 10/02/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 12:37

Comments: Q8522555 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.293**		**0.00749**
Barium	**7440-39-3**	**4.62**		**0.855**
Beryllium	**7440-41-7**	**0.0117**		**0.00256**
Cadmium	7440-43-9	0.0363	U	0.0592
Chromium	**7440-47-3**	**6.28**		**1.77**
Cobalt	**7440-48-4**	**0.620**		**0.0348**
Copper	**7440-50-8**	**51.0**		**2.10**
Lead	**7439-92-1**	**0.689**		**0.171**
Manganese	**7439-96-5**	**15.1**		**1.51**
Molybdenum	**7439-98-7**	**2.53**		**0.287**
Nickel	**7440-02-0**	**6.37**		**0.521**
Selenium	**7782-49-2**	**0.206**	LJ, QX	**0.00716**
Thallium	**7440-28-0**	**0.00101**		**4.71E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0423**
Zinc	7440-66-6	22.8	U	61.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100224-HM
Matrix: Air
Lab ID: 4100748-29
Sample Volume: 2066.979 m³
Filter ID:
Sampled: 10/02/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 12:53

Comments: Q8522554 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.179**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.654**		**0.00738**
Barium	**7440-39-3**	**6.30**		**0.842**
Beryllium	**7440-41-7**	**0.0152**		**0.00252**
Cadmium	7440-43-9	0.0122	U	0.0583
Chromium	**7440-47-3**	**3.11**		**1.74**
Cobalt	**7440-48-4**	**0.647**		**0.0343**
Copper	**7440-50-8**	**24.8**		**2.07**
Lead	**7439-92-1**	**0.649**		**0.168**
Manganese	**7439-96-5**	**17.1**		**1.49**
Molybdenum	**7439-98-7**	**1.31**		**0.283**
Nickel	**7440-02-0**	**2.20**		**0.513**
Selenium	**7782-49-2**	**0.240**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**9.25E-4**		**4.64E-4**
Vanadium	**7440-62-2**	**2.39**		**0.0416**
Zinc	7440-66-6	13.5	U	60.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100224-HM
Matrix: Air
Lab ID: 4100748-30
Sample Volume: 2035.514 m³
Filter ID:
Sampled: 10/02/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 13:12

Comments: Q8522550 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0613**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.172**		**0.00749**
Barium	**7440-39-3**	**3.65**		**0.855**
Beryllium	**7440-41-7**	**0.0228**		**0.00256**
Cadmium	7440-43-9	0.0256	U	0.0592
Chromium	**7440-47-3**	**3.14**		**1.77**
Cobalt	**7440-48-4**	**0.593**		**0.0348**
Copper	**7440-50-8**	**59.6**		**2.10**
Lead	**7439-92-1**	**0.361**		**0.171**
Manganese	**7439-96-5**	**17.2**		**1.51**
Molybdenum	**7439-98-7**	**2.76**		**0.287**
Nickel	**7440-02-0**	**3.76**		**0.521**
Selenium	**7782-49-2**	**0.202**	LJ, QX	**0.00716**
Thallium	**7440-28-0**	**0.00102**		**4.71E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0423**
Zinc	7440-66-6	16.8	U	61.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100224-HM
Matrix: Air
Lab ID: 4100748-31
Sample Volume: 1924.855 m³
Filter ID:
Sampled: 10/02/24 23:59
Received: 10/07/24 12:28
Analysis Date: 10/09/24 14:24

Comments: Q8522549 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.194**		**0.00792**
Barium	**7440-39-3**	**3.19**		**0.904**
Beryllium	**7440-41-7**	**0.0108**		**0.00270**
Cadmium	7440-43-9	0.0123	U	0.0626
Chromium	**7440-47-3**	**2.12**		**1.87**
Cobalt	**7440-48-4**	**0.351**		**0.0369**
Copper	**7440-50-8**	**38.9**		**2.22**
Lead	**7439-92-1**	**0.230**		**0.181**
Manganese	**7439-96-5**	**12.0**		**1.60**
Molybdenum	**7439-98-7**	**2.29**		**0.303**
Nickel	**7440-02-0**	**1.48**		**0.551**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00757**
Thallium	**7440-28-0**	**9.47E-4**	QB-04	**4.98E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0447**
Zinc	7440-66-6	10.0	U	64.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-100224-HM
Matrix: Air
Lab ID: 4100748-32
Sample Volume: 2036.278 m³
Filter ID:
Sampled: 10/02/24 00:00
Received: 10/07/24 12:28
Analysis Date: 10/09/24 15:00

Comments: Q8522545 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0194	SL, U	0.0308
Arsenic	7440-38-2	0.00363	U	0.00749
Barium	**7440-39-3**	**0.969**		**0.855**
Beryllium	7440-41-7	ND	U	0.00256
Cadmium	7440-43-9	8.17E-4	U	0.0592
Chromium	7440-47-3	0.718	U	1.77
Cobalt	7440-48-4	0.00982	U	0.0348
Copper	7440-50-8	0.322	U	2.10
Lead	7439-92-1	0.0232	U	0.171
Manganese	7439-96-5	0.167	U	1.51
Molybdenum	7439-98-7	0.139	U	0.287
Nickel	7440-02-0	0.339	U	0.521
Selenium	7782-49-2	0.00104	LJ, QX, U	0.00716
Thallium	7440-28-0	8.35E-5	QB-04, U	4.71E-4
Vanadium	7440-62-2	0.00515	U	0.0423
Zinc	7440-66-6	2.78	U	61.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Blank (2410029-CCB1)				Prepared & Analyzed: 10/08/24						
Antimony	0.910		ng/l							
Arsenic	6.80		ng/l							
Barium	-1.71		ng/l							U
Beryllium	-1.99		ng/l							U
Cadmium	0.158		ng/l							
Chromium	2.80		ng/l							
Cobalt	0.0641		ng/l							
Copper	14.6		ng/l							
Lead	4.53		ng/l							
Manganese	1.85		ng/l							
Molybdenum	26.9		ng/l							
Nickel	0.313		ng/l							
Selenium	-1.81		ng/l							LJ, QX, U
Thallium	1.44		ng/l							QB-04
Vanadium	-62.7		ng/l							U
Zinc	-42.7		ng/l							U
Calibration Blank (2410029-CCB2)				Prepared & Analyzed: 10/08/24						
Antimony	0.443		ng/l							
Arsenic	2.79		ng/l							
Barium	-0.0192		ng/l							U
Beryllium	-2.30		ng/l							U
Cadmium	0.121		ng/l							
Chromium	1.55		ng/l							
Cobalt	0.0659		ng/l							
Copper	7.12		ng/l							
Lead	2.64		ng/l							
Manganese	1.42		ng/l							
Molybdenum	2.88		ng/l							
Nickel	2.03		ng/l							
Selenium	-6.08		ng/l							LJ, QX, U
Thallium	1.09		ng/l							
Vanadium	-68.2		ng/l							U
Zinc	-40.5		ng/l							U
Calibration Blank (2410029-CCB3)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.204		ng/l							
Arsenic	6.46		ng/l							
Barium	0.0174		ng/l							
Beryllium	-2.51		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Blank (2410029-CCB3) Contin				Prepared: 10/08/24 Analyzed: 10/09/24						
Cadmium	0.118		ng/l							
Chromium	2.22		ng/l							
Cobalt	0.103		ng/l							
Copper	8.09		ng/l							
Lead	2.25		ng/l							
Manganese	0.976		ng/l							
Molybdenum	1.71		ng/l							
Nickel	1.22		ng/l							
Selenium	-2.96		ng/l							LJ, QX, U
Thallium	1.04		ng/l							
Vanadium	-77.6		ng/l							U
Zinc	-44.2		ng/l							U
Calibration Blank (2410029-CCB4)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.289		ng/l							
Arsenic	4.03		ng/l							
Barium	0.245		ng/l							
Beryllium	-3.09		ng/l							U
Cadmium	0.0148		ng/l							
Chromium	1.98		ng/l							
Cobalt	0.0764		ng/l							
Copper	6.59		ng/l							
Lead	1.65		ng/l							
Manganese	0.900		ng/l							
Molybdenum	1.16		ng/l							
Nickel	3.34		ng/l							
Selenium	16.1		ng/l							LJ, QX
Thallium	0.859		ng/l							
Vanadium	-78.6		ng/l							U
Zinc	-56.8		ng/l							U
Calibration Blank (2410029-CCB5)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.428		ng/l							
Arsenic	6.86		ng/l							
Barium	-0.0440		ng/l							U
Beryllium	-3.19		ng/l							U
Cadmium	0.0599		ng/l							
Chromium	2.10		ng/l							
Cobalt	0.0181		ng/l							
Copper	7.68		ng/l							

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Blank (2410029-CCB5) Contin				Prepared: 10/08/24 Analyzed: 10/09/24						
Lead	1.80		ng/l							
Manganese	1.72		ng/l							
Molybdenum	1.81		ng/l							
Nickel	3.48		ng/l							
Selenium	11.9		ng/l							LJ, QX
Thallium	0.848		ng/l							
Vanadium	-85.5		ng/l							U
Zinc	-47.1		ng/l							U
Calibration Blank (2410029-CCB6)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.0809		ng/l							
Arsenic	5.05		ng/l							
Barium	-0.0952		ng/l							U
Beryllium	-3.51		ng/l							U
Cadmium	0.0711		ng/l							
Chromium	2.08		ng/l							
Cobalt	0.147		ng/l							
Copper	7.94		ng/l							
Lead	1.78		ng/l							
Manganese	0.531		ng/l							
Molybdenum	1.97		ng/l							
Nickel	2.32		ng/l							
Selenium	-2.94		ng/l							LJ, QX, U
Thallium	0.941		ng/l							
Vanadium	-88.0		ng/l							U
Zinc	-38.0		ng/l							U
Calibration Blank (2410029-CCB7)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.617		ng/l							
Arsenic	1.98		ng/l							
Barium	-0.144		ng/l							U
Beryllium	-3.16		ng/l							U
Cadmium	0.0603		ng/l							
Chromium	1.05		ng/l							
Cobalt	0.0358		ng/l							
Copper	9.88		ng/l							
Lead	2.71		ng/l							
Manganese	0.434		ng/l							
Molybdenum	5.00		ng/l							
Nickel	2.58		ng/l							

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Blank (2410029-CCB7) Contin				Prepared: 10/08/24 Analyzed: 10/09/24						
Selenium	-2.08		ng/l							LJ, QX, U
Thallium	1.36		ng/l							QB-04
Vanadium	-90.6		ng/l							U
Zinc	-60.5		ng/l							U
Calibration Check (2410029-CCV1)				Prepared & Analyzed: 10/08/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2410029-CCV2)				Prepared & Analyzed: 10/08/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	4860		ng/l	5000.0		97.1	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	508000		ng/l	500000		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Check (2410029-CCV3)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	209000		ng/l	200000		105	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	491		ng/l	500.00		98.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2410029-CCV4)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		101	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2410029-CCV5)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5260		ng/l	5000.0		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Check (2410029-CCV5) Contin				Prepared: 10/08/24 Analyzed: 10/09/24						
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	527000		ng/l	500000		105	90-110			
Molybdenum	53600		ng/l	50000		107	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20700		ng/l	20000		104	90-110			LJ, QX
Thallium	497		ng/l	500.00		99.5	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2410029-CCV6)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	219000		ng/l	200000		110	90-110			
Beryllium	5280		ng/l	5000.0		106	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52900		ng/l	50000		106	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	532000		ng/l	500000		106	90-110			
Molybdenum	54500		ng/l	50000		109	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	507		ng/l	500.00		101	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	527000		ng/l	500000		105	90-110			
Calibration Check (2410029-CCV7)				Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	221000		ng/l	200000		110	90-110			
Beryllium	4990		ng/l	5000.0		99.7	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Calibration Check (2410029-CCV7) Contin				Prepared: 10/08/24 Analyzed: 10/09/24						
Lead	208000		ng/l	200000		104	90-110			
Manganese	524000		ng/l	500000		105	90-110			
Molybdenum	54800		ng/l	50000		110	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20700		ng/l	20000		103	90-110			LJ, QX
Thallium	512		ng/l	500.00		102	90-110			
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	526000		ng/l	500000		105	90-110			
High Cal Check (2410029-HCV1)				Prepared & Analyzed: 10/08/24						
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	415000		ng/l	400000		104	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39900		ng/l	40000		99.9	95-105			
Chromium	478000		ng/l	480000		99.5	95-105			
Cobalt	99300		ng/l	100000		99.3	95-105			
Copper	3.96E6		ng/l	4.0000E6		99.0	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	991000		ng/l	1.0000E6		99.1	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	238000		ng/l	240000		99.3	95-105			
Selenium	39800		ng/l	40000		99.4	95-105			LJ, QX
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2410029-ICB1)				Prepared & Analyzed: 10/08/24						
Antimony	0.464		ng/l							
Arsenic	0.394		ng/l							
Barium	0.565		ng/l							
Beryllium	-2.11		ng/l							U
Cadmium	0.149		ng/l							
Chromium	4.51		ng/l							
Cobalt	0.113		ng/l							
Copper	18.2		ng/l							
Lead	4.20		ng/l							
Manganese	4.42		ng/l							
Molybdenum	9.48		ng/l							
Nickel	0.161		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Initial Cal Blank (2410029-ICB1) Continu				Prepared & Analyzed: 10/08/24						
Selenium	-2.20		ng/l							LJ, QX, U
Thallium	1.28		ng/l							
Vanadium	-61.6		ng/l							U
Zinc	-32.4		ng/l							U
Initial Cal Check (2410029-ICV1)				Prepared & Analyzed: 10/08/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19200		ng/l	20000		96.2	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	497000		ng/l	500000		99.5	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2410029-IFA1)				Prepared & Analyzed: 10/08/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	330000		ng/l	300000		110	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410029 - B4J0804										
Interference Check B (2410029-IFB1)					Prepared & Analyzed: 10/08/24					
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	209000		ng/l	200000		104	80-120			
Beryllium	4790		ng/l	5000.0		95.9	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	231000		ng/l	240000		96.1	80-120			
Cobalt	51400		ng/l	50000		103	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.7	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	513000		ng/l	500000		103	80-120			
Molybdenum	388000		ng/l	350000		111	80-120			
Nickel	118000		ng/l	120000		98.4	80-120			
Selenium	19400		ng/l	20000		96.8	80-120			LJ, QX
Thallium	535		ng/l	500.00		107	80-120			
Vanadium	19700		ng/l	20000		98.6	80-120			
Zinc	475000		ng/l	500000		94.9	80-120			
Batch B4J0804 - ICP-MS Extraction										
Blank (B4J0804-BLK1)					Prepared & Analyzed: 10/08/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J0804-BS1)					Prepared & Analyzed: 10/08/24					
Antimony	0.764	0.0386	ng/m³ Air	1.3829		55.3	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.7	80-120			
Barium	29.3	1.07	ng/m³ Air	27.658		106	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
LCS (B4J0804-BS1) Continued					Prepared & Analyzed: 10/08/24					
Beryllium	1.37	0.00320	ng/m³ Air	1.3829		99.0	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	14.6	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	28.7	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.0	0.214	ng/m³ Air	13.829		94.1	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.54	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.20	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			LJ, QX
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.1	80-120			QB-04
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.1	80-120			
Zinc	90.4	76.8	ng/m³ Air	82.975		109	80-120			
LCS (B4J0804-BS2)					Prepared & Analyzed: 10/08/24					
Antimony	0.784	0.0386	ng/m³ Air	1.3829		56.7	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.1	80-120			
Barium	29.4	1.07	ng/m³ Air	27.658		106	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.4	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.3	80-120			
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.0	0.214	ng/m³ Air	13.829		94.3	80-120			
Manganese	8.36	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.32	0.652	ng/m³ Air	2.7658		120	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.3	80-120			LJ, QX
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		98.0	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.4	80-120			
Zinc	91.7	76.8	ng/m³ Air	82.975		111	80-120			
Duplicate (B4J0804-DUP1)		**Source: 4100748-02**			Prepared & Analyzed: 10/08/24					
Antimony	0.129	0.0312	ng/m³ Air		0.137			5.87	10	SL
Arsenic	0.294	0.00758	ng/m³ Air		0.273			7.29	10	
Barium	6.97	0.865	ng/m³ Air		5.71			19.8	10	
Beryllium	0.0153	0.00259	ng/m³ Air		0.0147			4.01	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	3.41	1.79	ng/m³ Air		3.39			0.481	10	
Cobalt	0.559	0.0352	ng/m³ Air		0.533			4.80	10	

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Duplicate (B4J0804-DUP1) Continued			**Source: 4100748-02**		Prepared & Analyzed: 10/08/24					
Copper	32.2	2.13	ng/m³ Air		31.8			1.42	10	
Lead	0.816	0.173	ng/m³ Air		0.798			2.28	10	
Manganese	16.9	1.53	ng/m³ Air		16.3			3.34	10	
Molybdenum	1.85	0.290	ng/m³ Air		1.76			4.89	10	
Nickel	1.69	0.527	ng/m³ Air		1.56			8.19	10	
Selenium	0.227	0.00724	ng/m³ Air		0.205			10.6	10	LJ, QX
Thallium	0.00102	4.76E-4	ng/m³ Air		0.00106			4.11	10	QB-04
Vanadium	1.76	0.0428	ng/m³ Air		1.71			2.88	10	
Zinc	87.8	62.1	ng/m³ Air		85.9			2.27	10	
Duplicate (B4J0804-DUP2)			**Source: 4100748-22**		Prepared: 10/08/24 Analyzed: 10/09/24					
Antimony	0.0653	0.0326	ng/m³ Air		0.0673			3.04	10	SL
Arsenic	0.177	0.00790	ng/m³ Air		0.186			4.75	10	
Barium	4.05	0.903	ng/m³ Air		3.93			2.99	10	
Beryllium	0.0196	0.00270	ng/m³ Air		0.0195			0.839	10	
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	3.00	1.86	ng/m³ Air		4.56			41.3	10	
Cobalt	0.386	0.0368	ng/m³ Air		0.472			20.1	10	D-F
Copper	31.1	2.22	ng/m³ Air		34.1			9.41	10	
Lead	0.231	0.181	ng/m³ Air		0.250			8.02	10	
Manganese	13.8	1.59	ng/m³ Air		15.1			8.81	10	
Molybdenum	1.63	0.303	ng/m³ Air		1.85			12.4	10	
Nickel	1.43	0.550	ng/m³ Air		3.43			82.0	10	D-F
Selenium	0.159	0.00756	ng/m³ Air		0.162			2.25	10	LJ, QX
Thallium	9.38E-4	4.97E-4	ng/m³ Air		0.00116			21.3	10	
Vanadium	1.17	0.0446	ng/m³ Air		1.20			2.26	10	
Zinc	ND	64.8	ng/m³ Air		ND				10	U
Duplicate (B4J0804-DUP3)			**Source: 4100748-10**		Prepared: 10/08/24 Analyzed: 10/09/24					
Antimony	0.0771	0.0307	ng/m³ Air		0.0777			0.794	10	SL
Arsenic	0.255	0.00745	ng/m³ Air		0.249			2.16	10	
Barium	3.38	0.851	ng/m³ Air		3.38			0.186	10	
Beryllium	0.00793	0.00255	ng/m³ Air		0.00770			3.03	10	
Cadmium	ND	0.0589	ng/m³ Air		ND				10	U
Chromium	2.36	1.76	ng/m³ Air		2.38			0.961	10	
Cobalt	0.323	0.0347	ng/m³ Air		0.320			0.711	10	
Copper	37.2	2.09	ng/m³ Air		37.6			1.02	10	
Lead	0.431	0.170	ng/m³ Air		0.434			0.693	10	
Manganese	9.21	1.50	ng/m³ Air		9.19			0.287	10	
Molybdenum	1.91	0.286	ng/m³ Air		1.90			0.359	10	

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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Duplicate (B4J0804-DUP3) Continued		**Source: 4100748-10**		Prepared: 10/08/24 Analyzed: 10/09/24						
Nickel	1.21	0.519	ng/m³ Air		1.21			0.0544	10	
Selenium	0.191	0.00713	ng/m³ Air		0.199			3.85	10	LJ, QX
Thallium	0.00106	4.68E-4	ng/m³ Air		0.00105			1.44	10	
Vanadium	1.23	0.0421	ng/m³ Air		1.24			0.602	10	
Zinc	ND	61.1	ng/m³ Air		ND				10	U
Duplicate (B4J0804-DUP4)		**Source: 4100748-31**		Prepared: 10/08/24 Analyzed: 10/09/24						
Antimony	0.113	0.0326	ng/m³ Air		0.112			0.936	10	SL
Arsenic	0.196	0.00792	ng/m³ Air		0.194			1.05	10	
Barium	3.16	0.904	ng/m³ Air		3.19			0.742	10	
Beryllium	0.0106	0.00270	ng/m³ Air		0.0108			2.23	10	
Cadmium	ND	0.0626	ng/m³ Air		ND				10	U
Chromium	2.13	1.87	ng/m³ Air		2.12			0.161	10	
Cobalt	0.354	0.0369	ng/m³ Air		0.351			0.592	10	
Copper	38.9	2.22	ng/m³ Air		38.9			0.132	10	
Lead	0.231	0.181	ng/m³ Air		0.230			0.379	10	
Manganese	12.1	1.60	ng/m³ Air		12.0			0.774	10	
Molybdenum	2.30	0.303	ng/m³ Air		2.29			0.435	10	
Nickel	1.49	0.551	ng/m³ Air		1.48			1.02	10	
Selenium	0.185	0.00757	ng/m³ Air		0.192			3.30	10	LJ, QX
Thallium	9.19E-4	4.98E-4	ng/m³ Air		9.47E-4			2.96	10	QB-04
Vanadium	1.27	0.0447	ng/m³ Air		1.28			0.902	10	
Zinc	ND	64.9	ng/m³ Air		ND				10	U
Matrix Spike (B4J0804-MS1)		**Source: 4100748-02**		Prepared & Analyzed: 10/08/24						
Antimony	0.621	0.0312	ng/m³ Air	1.1180	0.137	43.3	80-120			SL
Arsenic	2.43	0.00758	ng/m³ Air	2.2361	0.273	96.3	80-120			
Barium	28.8	0.865	ng/m³ Air	22.361	5.71	103	80-120			
Beryllium	0.935	0.00259	ng/m³ Air	1.1180	0.0147	82.3	80-120			
Cadmium	1.14	0.0599	ng/m³ Air	1.1180	ND	102	80-120			
Chromium	13.9	1.79	ng/m³ Air	11.180	3.39	94.0	80-120			
Cobalt	1.63	0.0352	ng/m³ Air	1.1180	0.533	98.2	80-120			
Copper	54.4	2.13	ng/m³ Air	22.361	31.8	101	80-120			
Lead	11.5	0.173	ng/m³ Air	11.180	0.798	95.3	80-120			
Manganese	22.7	1.53	ng/m³ Air	6.7082	16.3	95.8	80-120			
Molybdenum	2.87	0.290	ng/m³ Air	1.1180	1.76	99.1	80-120			
Nickel	3.71	0.527	ng/m³ Air	2.2361	1.56	96.2	80-120			
Selenium	2.31	0.00724	ng/m³ Air	2.2361	0.205	94.2	80-120			LJ, QX
Thallium	0.110	4.76E-4	ng/m³ Air	0.11180	0.00106	97.2	80-120			QB-04
Vanadium	3.84	0.0428	ng/m³ Air	2.2361	1.71	95.1	80-120			

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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Matrix Spike (B4J0804-MS1) Continued	**Source: 4100748-02**			Prepared & Analyzed: 10/08/24						
Zinc	153	62.1	ng/m³ Air	67.082	85.9	99.7	80-120			
Matrix Spike (B4J0804-MS2)	**Source: 4100748-22**			Prepared: 10/08/24		Analyzed: 10/09/24				
Antimony	0.675	0.0326	ng/m³ Air	1.1665	0.0673	52.1	80-120			SL
Arsenic	2.42	0.00790	ng/m³ Air	2.3330	0.186	95.7	80-120			
Barium	27.3	0.903	ng/m³ Air	23.330	3.93	100	80-120			
Beryllium	1.11	0.00270	ng/m³ Air	1.1665	0.0195	93.8	80-120			
Cadmium	1.19	0.0625	ng/m³ Air	1.1665	ND	102	80-120			
Chromium	13.6	1.86	ng/m³ Air	11.665	4.56	77.1	80-120			QM-07
Cobalt	1.51	0.0368	ng/m³ Air	1.1665	0.472	88.7	80-120			
Copper	50.4	2.22	ng/m³ Air	23.330	34.1	69.6	80-120			QM-07
Lead	11.4	0.181	ng/m³ Air	11.665	0.250	95.3	80-120			
Manganese	19.7	1.59	ng/m³ Air	6.9989	15.1	65.8	80-120			QM-07
Molybdenum	2.54	0.303	ng/m³ Air	1.1665	1.85	59.1	80-120			QM-07
Nickel	3.56	0.550	ng/m³ Air	2.3330	3.43	5.54	80-120			QM-07
Selenium	2.38	0.00756	ng/m³ Air	2.3330	0.162	95.2	80-120			LJ, QX
Thallium	0.116	4.97E-4	ng/m³ Air	0.11665	0.00116	98.3	80-120			
Vanadium	3.34	0.0446	ng/m³ Air	2.3330	1.20	91.7	80-120			
Zinc	81.8	64.8	ng/m³ Air	69.989	ND	117	80-120			
Matrix Spike Dup (B4J0804-MSD1)	**Source: 4100748-02**			Prepared & Analyzed: 10/08/24						
Antimony	0.669	0.0312	ng/m³ Air	1.1180	0.137	47.6	80-120	7.46	20	SL
Arsenic	2.44	0.00758	ng/m³ Air	2.2361	0.273	96.7	80-120	0.315	20	
Barium	29.1	0.865	ng/m³ Air	22.361	5.71	105	80-120	1.17	20	
Beryllium	1.11	0.00259	ng/m³ Air	1.1180	0.0147	98.0	80-120	17.1	20	
Cadmium	1.15	0.0599	ng/m³ Air	1.1180	ND	103	80-120	1.32	20	
Chromium	14.1	1.79	ng/m³ Air	11.180	3.39	95.9	80-120	1.48	20	
Cobalt	1.75	0.0352	ng/m³ Air	1.1180	0.533	109	80-120	7.15	20	
Copper	56.1	2.13	ng/m³ Air	22.361	31.8	109	80-120	2.97	20	
Lead	11.7	0.173	ng/m³ Air	11.180	0.798	97.6	80-120	2.21	20	
Manganese	22.6	1.53	ng/m³ Air	6.7082	16.3	94.4	80-120	0.416	20	
Molybdenum	2.90	0.290	ng/m³ Air	1.1180	1.76	102	80-120	1.13	20	
Nickel	3.76	0.527	ng/m³ Air	2.2361	1.56	98.7	80-120	1.52	20	
Selenium	2.36	0.00724	ng/m³ Air	2.2361	0.205	96.2	80-120	1.92	20	LJ, QX
Thallium	0.111	4.76E-4	ng/m³ Air	0.11180	0.00106	98.7	80-120	1.50	20	QB-04
Vanadium	3.85	0.0428	ng/m³ Air	2.2361	1.71	95.7	80-120	0.315	20	
Zinc	151	62.1	ng/m³ Air	67.082	85.9	97.5	80-120	0.994	20	
Matrix Spike Dup (B4J0804-MSD2)	**Source: 4100748-22**			Prepared: 10/08/24		Analyzed: 10/09/24				
Antimony	0.687	0.0326	ng/m³ Air	1.1665	0.0673	53.1	80-120	1.68	20	SL
Arsenic	2.47	0.00790	ng/m³ Air	2.3330	0.186	98.0	80-120	2.23	20	

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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Matrix Spike Dup (B4J0804-MSD2) Contir				**Source: 4100748-22**		Prepared: 10/08/24		Analyzed: 10/09/24		
Barium	27.8	0.903	ng/m³ Air	23.330	3.93	102	80-120	1.98	20	
Beryllium	1.16	0.00270	ng/m³ Air	1.1665	0.0195	97.4	80-120	3.67	20	
Cadmium	1.21	0.0625	ng/m³ Air	1.1665	ND	104	80-120	2.06	20	
Chromium	14.0	1.86	ng/m³ Air	11.665	4.56	81.2	80-120	3.44	20	
Cobalt	1.52	0.0368	ng/m³ Air	1.1665	0.472	89.8	80-120	0.879	20	
Copper	45.4	2.22	ng/m³ Air	23.330	34.1	48.2	80-120	10.4	20	QM-07
Lead	11.6	0.181	ng/m³ Air	11.665	0.250	97.3	80-120	2.05	20	
Manganese	19.4	1.59	ng/m³ Air	6.9989	15.1	61.7	80-120	1.46	20	QM-07
Molybdenum	2.33	0.303	ng/m³ Air	1.1665	1.85	41.4	80-120	8.51	20	QM-07
Nickel	3.28	0.550	ng/m³ Air	2.3330	3.43	NR	80-120	8.19	20	QM-07
Selenium	2.48	0.00756	ng/m³ Air	2.3330	0.162	99.3	80-120	3.96	20	QX, LJ
Thallium	0.118	4.97E-4	ng/m³ Air	0.11665	0.00116	100	80-120	2.10	20	
Vanadium	3.37	0.0446	ng/m³ Air	2.3330	1.20	93.2	80-120	1.02	20	
Zinc	81.7	64.8	ng/m³ Air	69.989	ND	117	80-120	0.0573	20	
Post Spike (B4J0804-PS1)				**Source: 4100748-02**		Prepared & Analyzed: 10/08/24				
Antimony	0.355	0.0312	ng/m³ Air	0.22361	0.137	97.7	75-125			SL
Arsenic	1.30	0.00758	ng/m³ Air	1.1180	0.273	91.9	75-125			
Barium	7.92	0.865	ng/m³ Air	2.2361	5.71	98.9	75-125			
Beryllium	0.230	0.00259	ng/m³ Air	0.22361	0.0147	96.1	75-125			
Cadmium	0.146	0.0599	ng/m³ Air	0.11180	ND	131	75-125			
Chromium	4.41	1.79	ng/m³ Air	1.1180	3.39	90.7	75-125			
Cobalt	0.747	0.0352	ng/m³ Air	0.22361	0.533	95.6	75-125			
Copper	42.7	2.13	ng/m³ Air	11.180	31.8	98.0	75-125			
Lead	22.8	0.173	ng/m³ Air	22.361	0.798	98.5	75-125			
Manganese	18.4	1.53	ng/m³ Air	2.2361	16.3	94.9	75-125			
Molybdenum	2.81	0.290	ng/m³ Air	1.1180	1.76	93.9	75-125			
Nickel	3.71	0.527	ng/m³ Air	2.2361	1.56	96.5	75-125			
Selenium	1.26	0.00724	ng/m³ Air	1.1180	0.205	94.8	75-125			LJ, QX
Thallium	0.0557	4.76E-4	ng/m³ Air	5.5902E-2	0.00106	97.7	75-125			QB-04
Vanadium	2.76	0.0428	ng/m³ Air	1.1180	1.71	94.1	75-125			
Zinc	108	62.1	ng/m³ Air	22.361	85.9	98.7	75-125			
Post Spike (B4J0804-PS2)				**Source: 4100748-22**		Prepared: 10/08/24		Analyzed: 10/09/24		
Antimony	0.296	0.0326	ng/m³ Air	0.23330	0.0673	98.2	75-125			SL
Arsenic	1.26	0.00790	ng/m³ Air	1.1665	0.186	91.7	75-125			
Barium	6.17	0.903	ng/m³ Air	2.3330	3.93	95.8	75-125			
Beryllium	0.243	0.00270	ng/m³ Air	0.23330	0.0195	95.8	75-125			
Cadmium	0.130	0.0625	ng/m³ Air	0.11665	ND	111	75-125			
Chromium	5.60	1.86	ng/m³ Air	1.1665	4.56	89.8	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Post Spike (B4J0804-PS2) Continued			**Source: 4100748-22**		Prepared: 10/08/24		Analyzed: 10/09/24			
Cobalt	0.694	0.0368	ng/m³ Air	0.23330	0.472	95.1	75-125			
Copper	45.8	2.22	ng/m³ Air	11.665	34.1	100	75-125			
Lead	23.1	0.181	ng/m³ Air	23.330	0.250	97.9	75-125			
Manganese	17.3	1.59	ng/m³ Air	2.3330	15.1	95.4	75-125			
Molybdenum	2.97	0.303	ng/m³ Air	1.1665	1.85	95.9	75-125			
Nickel	5.69	0.550	ng/m³ Air	2.3330	3.43	96.9	75-125			
Selenium	1.27	0.00756	ng/m³ Air	1.1665	0.162	95.0	75-125			LJ, QX
Thallium	0.0575	4.97E-4	ng/m³ Air	5.8324E-2	0.00116	96.5	75-125			
Vanadium	2.30	0.0446	ng/m³ Air	1.1665	1.20	94.0	75-125			
Zinc	ND	64.8	ng/m³ Air	23.330	ND		75-125			U
Dilution Check (B4J0804-SRL1)			**Source: 4100748-02**		Prepared & Analyzed: 10/08/24					
Antimony	ND	0.156	ng/m³ Air		ND				10	SL, U
Arsenic	0.272	0.0379	ng/m³ Air		0.273			0.498	10	
Barium	5.63	4.33	ng/m³ Air		5.71			1.33	10	
Beryllium	ND	0.0129	ng/m³ Air		0.0147				10	U
Cadmium	ND	0.300	ng/m³ Air		ND				10	U
Chromium	ND	8.93	ng/m³ Air		ND				10	U
Cobalt	0.531	0.176	ng/m³ Air		0.533			0.386	10	
Copper	31.6	10.6	ng/m³ Air		31.8			0.469	10	
Lead	ND	0.865	ng/m³ Air		ND				10	U
Manganese	16.2	7.64	ng/m³ Air		16.3			0.696	10	
Molybdenum	1.74	1.45	ng/m³ Air		1.76			1.27	10	
Nickel	ND	2.64	ng/m³ Air		ND				10	U
Selenium	0.217	0.0362	ng/m³ Air		0.205			5.76	10	LJ, QX
Thallium	0.00297	0.00238	ng/m³ Air		ND			94.4	10	QB-04
Vanadium	1.63	0.214	ng/m³ Air		1.71			4.84	10	
Zinc	ND	310	ng/m³ Air		ND				10	U
Dilution Check (B4J0804-SRL2)			**Source: 4100748-22**		Prepared: 10/08/24		Analyzed: 10/09/24			
Antimony	ND	0.163	ng/m³ Air		ND				10	SL, U
Arsenic	0.195	0.0395	ng/m³ Air		0.186			4.62	10	
Barium	ND	4.51	ng/m³ Air		ND				10	U
Beryllium	0.0170	0.0135	ng/m³ Air		0.0195			13.7	10	
Cadmium	ND	0.313	ng/m³ Air		ND				10	U
Chromium	ND	9.32	ng/m³ Air		ND				10	U
Cobalt	0.466	0.184	ng/m³ Air		0.472			1.26	10	
Copper	33.9	11.1	ng/m³ Air		34.1			0.703	10	
Lead	ND	0.903	ng/m³ Air		ND				10	U
Manganese	15.0	7.97	ng/m³ Air		15.1			0.790	10	

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J0804 - ICP-MS Extraction										
Dilution Check (B4J0804-SRL2) Continued				**Source: 4100748-22**		Prepared: 10/08/24 Analyzed: 10/09/24				
Molybdenum	1.84	1.51	ng/m³ Air		1.85			0.613	10	
Nickel	3.44	2.75	ng/m³ Air		3.43			0.273	10	
Selenium	0.180	0.0378	ng/m³ Air		0.162			10.4	10	LJ, QX
Thallium	ND	0.00248	ng/m³ Air		ND				10	U
Vanadium	1.14	0.223	ng/m³ Air		1.20			4.94	10	
Zinc	ND	324	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 10/16/24 12:44
SUBMITTED: 10/07/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/17/2024 and Shanna Vasser 10/18/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/26/2024 – 10/02/2024
Report No: 4100748

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

October 3 through October 9, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from October 3 through October 9, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 3 through October 9 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of an instance where an equipment fault occurred, as described below:

- Because of an equipment fault, there was one day when the air monitoring period was interrupted as described below:
    - On October 8, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 22 hours

The equipment fault was the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption resulted in a shortened monitoring duration which may have influenced the 24-hour time weighted average (TWA) calculation for that day (October 8).

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as the asbestos sample results were below the laboratory's analytical sensitivity (see **Table 2**). On October 3, the laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in that sample was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

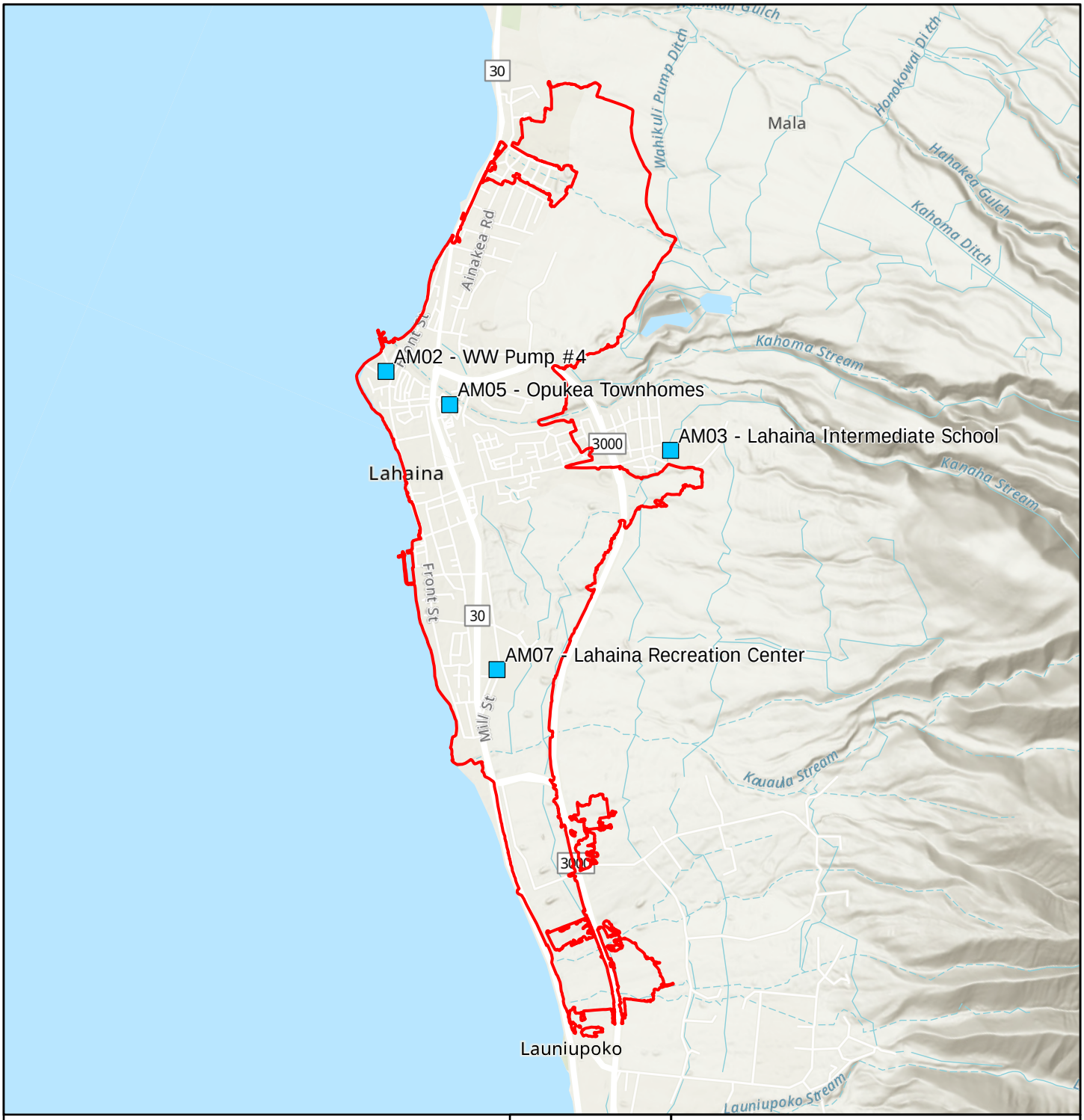
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 3 through October 9, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/3/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	52
	Lahaina Recreation Center (AM-07)	4.7
10/4/2024	Opukea Townhomes (AM-05)	6.1
	WW Pump Station #4 (AM-02)	5.8
	Lahaina Intermediate School (AM-03)	45
	Lahaina Recreation Center (AM-07)	86
10/5/2024	Opukea Townhomes (AM-05)	6.6
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	137
	Lahaina Recreation Center (AM-07)	3.7
10/6/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	38
	Lahaina Recreation Center (AM-07)	6.8
10/7/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	44
	Lahaina Recreation Center (AM-07)	101
10/8/2024	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	14*
	Lahaina Intermediate School (AM-03)	46
	Lahaina Recreation Center (AM-07)	6.5
10/9/2024	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	40
	Lahaina Recreation Center (AM-07)	98

Notes:

$\mu g/m^3$ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

* Data provided were from a reduced TWA calculation because of an equipment disruption

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 3 through October 9, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/3/2024	Opukea Townhomes (AM-05)	<0.0024	0.000126	0.000228	0.00411	0.00000991	ND	0.00204	0.000341	0.0328	0.000602	0.0100	0.00180	0.00132	0.000177	0.00000131	0.00130	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000153	0.000256	0.00570	0.0000167	ND	0.00278	0.000615	0.0224	0.000593	0.0162	0.00150	0.00195	0.000232	0.00000104	0.00208	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000535	0.000136	0.00250	0.0000162	ND	0.00216	0.000343	0.0459	0.000187	0.00906	0.00179	0.00152	0.000150	0.000000696	0.00102	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000900	0.000201	0.00331	0.0000129	ND	0.00399	0.000356	0.0275	0.000304	0.0115	0.00147	0.00165	0.000169	0.000000711	0.00112	ND
10/4/2024	Opukea Townhomes (AM-05)	<0.0027	0.000136	0.000296	0.00568	0.0000156	ND	0.00324	0.000649	0.0391	0.000715	0.0175	0.00196	0.00210	0.000197	0.00000130	0.00211	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000118	0.000246	0.00454	0.0000136	ND	0.00277	0.000534	0.0229	0.000617	0.0139	0.00127	0.00160	0.000199	0.00000101	0.00172	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000671	0.000230	0.00358	0.0000270	ND	0.00381	0.000680	0.0513	0.000387	0.0160	0.00219	0.00213	0.000179	0.00000113	0.00167	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.0000840	0.000339	0.0107	0.0000740	ND	0.00379	0.00108	0.0711	0.000786	0.0422	0.00167	0.00215	0.000301	0.00000230	0.00301	ND
10/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.000101	0.000203	0.00324	0.00000665	ND	ND	0.000244	0.0409	0.000823	0.00689	0.00216	0.00100	0.000117	0.00000110	0.000860	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000145	0.000246	0.00467	0.00000947	ND	0.00204	0.000337	0.0198	0.000558	0.00951	0.00125	0.00116	0.000133	0.00000131	0.00114	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000771	0.000168	0.00348	0.0000285	ND	0.00343	0.000552	0.0770	0.000483	0.0127	0.00286	0.00200	0.000162	0.00000125	0.00150	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000154	0.000135	0.00243	0.00000743	0.000461	0.00192	0.000212	0.0486	0.000382	0.00649	0.00147	0.00104	0.000116	0.000000966	0.000735	ND
10/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.000152	0.000262	0.00455	0.00000668	ND	ND	0.000192	0.0243	0.000577	0.00615	0.00153	0.000888	0.000175	0.000000941	0.000797	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000186	0.000535	0.00460	0.00000786	ND	0.00178	0.000260	0.0569	0.00137	0.00842	0.00259	0.00102	0.000168	0.00000109	0.000971	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000671	0.000149	0.00279	0.0000153	ND	0.00234	0.000409	0.0720	0.000328	0.00897	0.00297	0.00398	0.000205	0.00000115	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000246	0.000387	0.00484	0.0000240	ND	0.00409	0.000619	0.0354	0.000637	0.0213	0.00167	0.00326	0.000239	0.00000161	0.00175	ND
10/7/2024	Opukea Townhomes (AM-05)	<0.0024	0.000142	0.000337	0.00417	0.00000940	ND	0.00213	0.000346	0.0697	0.000840	0.00952	0.00326	0.00136	0.000219	0.00000148	0.00132	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000187	0.000301	0.00622	0.0000125	ND	0.00227	0.000447	0.0224	0.000760	0.0123	0.00130	0.00158	0.000212	0.00000163	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000853	0.000176	0.00300	0.0000156	ND	0.00200	0.000318	0.0530	0.000394	0.00906	0.00266	0.00129	0.000219	0.00000141	0.00113	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.000146	0.000274	0.00439	0.0000223	ND	0.00264	0.000466	0.0458	0.00103	0.0168	0.00202	0.00152	0.000226	0.00000171	0.00158	ND
10/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.000134	0.000410	0.00529	0.0000111	ND	0.00246	0.000456	0.0700	0.00112	0.0135	0.00360	0.00138	0.000209	0.00000120	0.00158	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000159	0.000385	0.00702	0.0000192	ND	0.00357	0.000779	0.0230	0.000746	0.0193	0.00140	0.00239	0.000220	0.00000146	0.00243	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000671	0.000222	0.00384	0.0000221	ND	0.00288	0.000600	0.0678	0.000389	0.0149	0.00262	0.00183	0.000197	0.00000116	0.00156	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000124	0.000528	0.00777	0.0000400	ND	0.00479	0.00115	0.0753	0.000624	0.0359	0.00217	0.00267	0.000295	0.00000195	0.00298	ND
10/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.000144	0.00111	0.0176	0.0000740	0.000116	0.0135	0.00340	0.0610	0.00243	0.0788	0.00219	0.00937	0.000414	0.00000407	0.00990	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000146	0.00133	0.0394	0.0000876	0.000101	0.0149	0.00377	0.0314	0.00305	0.0856	0.00113	0.00974	0.000442	0.00000379	0.0113	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000420	0.000264	0.00579	0.0000601	ND	0.00554	0.00119	0.0732	0.000715	0.0269	0.00276	0.00324	0.000274	0.00000181	0.00297	ND
	Lahaina Recreation Center (AM-07)	<0.0030	0.000122	0.000622	0.00655	0.0000401	ND	0.00517	0.00122	0.0569	0.00106	0.0376	0.00166	0.00294	0.000292	0.00000195	0.00340	ND
95% Upper Confidence Limit[2]		NA	0.000140	0.000430	0.00760	0.0000340	0.000569	0.00468	0.00980	0.0568	0.00100	0.0262	0.00227	0.00293	0.000250	0.00000170	0.00281	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 3, through October 9, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/3/2024	AM-02	WW Pump Station #4	0.9	S	80	65	761.7
10/3/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	62	752.3
10/3/2024	AM-05	Opukea Townhomes	1.2	SE	83	61	761.0
10/3/2024	AM-07	Lahaina Recreational Center	1.3	SE	79	65	761.0
10/4/2024	AM-02	WW Pump Station #4	1.0	S	80	64	761.8
10/4/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	61	752.3
10/4/2024	AM-05	Opukea Townhomes	1.4	SE	83	60	761.1
10/4/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	63	761.0
10/5/2024	AM-02	WW Pump Station #4	1.0	S	80	67	762.0
10/5/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	65	752.6
10/5/2024	AM-05	Opukea Townhomes	1.2	SE	82	63	761.3
10/5/2024	AM-07	Lahaina Recreational Center	1.4	SE	79	67	761.3
10/6/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	762.8
10/6/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	753.4
10/6/2024	AM-05	Opukea Townhomes	1.1	SSE	83	62	762.2
10/6/2024	AM-07	Lahaina Recreational Center	1.3	SE	79	66	762.1
10/7/2024	AM-02	WW Pump Station #4	0.9	S	80	65	763.7
10/7/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	62	754.2
10/7/2024	AM-05	Opukea Townhomes	1.1	SE	83	61	763.0
10/7/2024	AM-07	Lahaina Recreational Center	1.3	SE	79	66	762.9
10/8/2024	AM-02	WW Pump Station #4	1.3	SE	80	58	762.9
10/8/2024	AM-03	Lahaina Intermediate School	1.5	ESE	80	54	753.4
10/8/2024	AM-05	Opukea Townhomes	2.0	ESE	83	54	762.2
10/8/2024	AM-07	Lahaina Recreational Center	1.5	ESE	79	59	762.1
10/9/2024	AM-02	WW Pump Station #4	1.5	SE	81	59	761.9
10/9/2024	AM-03	Lahaina Intermediate School	1.6	E	81	56	752.5
10/9/2024	AM-05	Opukea Townhomes	1.8	E	84	55	761.3
10/9/2024	AM-07	Lahaina Recreational Center	1.5	SE	79	63	761.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042421002
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100324-AB**		**Sample Description:**	**DL267149**
EMSL Sample Number:	042421002-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0001 **Customer Sample:** MFL-AM05-100324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J8	None Detected									
B1	F3	None Detected									
B1	B5	None Detected									
B3	H6	None Detected									
B3	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

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Phone:	(703) 489-2674
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Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100324-AB**		**Sample Description:**	**DL267139**
EMSL Sample Number:	042421002-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7079.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0002 **Customer Sample:** MFL-AM02-100324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I9	None Detected									
B5	H3	None Detected									
B5	C5	None Detected									
B6	J2	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100324-AB**	**Sample Description:**	**DL267188**
EMSL Sample Number:	042421002-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7254.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0003 **Customer Sample:** MFL-AM03-100324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J9	None Detected									
C1	G5	None Detected									
C1	A4	None Detected									
C2	I5	None Detected									
C2	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100324-AB**	**Sample Description:**	**DL267215**
EMSL Sample Number:	042421002-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7327.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0004 **Customer Sample:** MFL-AM07-100324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	H7	None Detected									
C5	E2	None Detected									
C5	A6	None Detected									
C6	F8	None Detected									
C6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100324-AB**		**Sample Description:**	**DL267150**
EMSL Sample Number:	042421002-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0005 **Customer Sample:** MFL-FB01-100324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I8	None Detected									
D2	G4	None Detected									
D2	E7	None Detected									
D2	A6	None Detected									
D3	I3	None Detected									
D3	F6	None Detected									
D3	C4	None Detected									
D4	B8	None Detected									
D4	C3	None Detected									
D4	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100424-AB**		**Sample Description:**	**DL267189**
EMSL Sample Number:	042421002-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7117.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0006 **Customer Sample:** MFL-AM05-100424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	F3	None Detected									
D5	B4	None Detected									
D6	H2	None Detected									
D6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100424-AB**	**Sample Description:**	**DL267172**
EMSL Sample Number:	042421002-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7205.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0007 **Customer Sample:** MFL-AM02-100424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	G3	None Detected									
E1	B6	None Detected									
E2	H8	None Detected									
E2	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100424-AB**	**Sample Description:**	**DL267190**
EMSL Sample Number:	042421002-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7177.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0008 **Customer Sample:** MFL-AM03-100424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B9	None Detected									
E5	F4	None Detected									
E5	J6	None Detected									
E6	A3	None Detected									
E6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100424-AB**	**Sample Description:**	**DL267051**
EMSL Sample Number:	042421002-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7129.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0009 **Customer Sample:** MFL-AM07-100424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B4	None Detected									
F1	E2	None Detected									
F1	I7	None Detected									
F2	G3	None Detected									
F2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421002
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100424-AB**		**Sample Description:**	**DL267053**
EMSL Sample Number:	042421002-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0010 **Customer Sample:** MFL-FB01-100424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I3	None Detected									
F5	H7	None Detected									
F5	F3	None Detected									
F5	A7	None Detected									
F6	F4	None Detected									
F6	G6	None Detected									
F6	I4	None Detected									
F8	J3	None Detected									
F8	H8	None Detected									
F8	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100524-AB**	**Sample Description:**	**DL267056**
EMSL Sample Number:	042421002-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7146.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0011 **Customer Sample:** MFL-AM05-100524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I6	None Detected									
G1	F4	None Detected									
G1	A3	None Detected									
G2	C8	None Detected									
G2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100524-AB**	**Sample Description:**	**DL267050**
EMSL Sample Number:	042421002-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6934.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0012 **Customer Sample:** MFL-AM02-100524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J4	None Detected									
G5	E7	None Detected									
G5	B5	None Detected									
G6	A9	None Detected									
G6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100524-AB**	**Sample Description:**	**DL267173**
EMSL Sample Number:	042421002-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7182.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0013 **Customer Sample:** MFL-AM03-100524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J5	None Detected									
H2	F8	None Detected									
H2	B4	None Detected									
H3	C9	None Detected									
H3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
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Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100524-AB**	**Sample Description:**	**DL267196**
EMSL Sample Number:	042421002-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7239.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0014 **Customer Sample:** MFL-AM07-100524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	A5	None Detected									
H6	F3	None Detected									
H6	I4	None Detected									
H7	G8	None Detected									
H7	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100524-AB**		**Sample Description:**	**DL267047**
EMSL Sample Number:	042421002-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0015 **Customer Sample:** MFL-FB01-100524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J9	None Detected									
I1	H6	None Detected									
I1	E3	None Detected									
I1	B4	None Detected									
I2	A9	None Detected									
I2	D7	None Detected									
I2	I4	None Detected									
I3	J8	None Detected									
I3	G5	None Detected									
I3	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100624-AB**		**Sample Description:**	**DL267205**
EMSL Sample Number:	042421002-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0016 **Customer Sample:** MFL-AM05-100624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B6	None Detected									
I5	F7	None Detected									
I5	J4	None Detected									
I6	C2	None Detected									
I6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100624-AB**		**Sample Description:**	**DL267046**
EMSL Sample Number:	042421002-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7020.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0017 **Customer Sample:** MFL-AM02-100624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	H7	None Detected									
J1	E3	None Detected									
J1	B5	None Detected									
J2	I4	None Detected									
J2	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100624-AB**		**Sample Description:**	**DL267161**
EMSL Sample Number:	042421002-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7249.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0018 **Customer Sample:** MFL-AM03-100624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J6	None Detected									
J5	H2	None Detected									
J5	C5	None Detected									
J6	B6	None Detected									
J6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421002
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100624-AB**	**Sample Description:**	**DL267208**
EMSL Sample Number:	042421002-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7159.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0019 **Customer Sample:** MFL-AM07-100624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A3	None Detected									
K1	D6	None Detected									
K1	I4	None Detected									
K2	H7	None Detected									
K2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421002
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/16/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100624-AB**	**Sample Description:**	**DL267212**
EMSL Sample Number:	042421002-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0020 **Customer Sample:** MFL-FB01-100624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A9	None Detected									
K5	C4	None Detected									
K5	G8	None Detected									
K5	I6	None Detected									
K6	J3	None Detected									
K6	F6	None Detected									
K6	B5	None Detected									
K7	A4	None Detected									
K7	E8	None Detected									
K7	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421002
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/09/2024 09:51 AM
Analysis Date:	10/15/2024
Report Date:	10/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042421002-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421002
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421002-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A9	None Detected									
A1	A5	None Detected									
A1	F4	None Detected									
A1	I7	None Detected									
A2	B8	None Detected									
A2	D6	None Detected									
A2	J7	None Detected									
A3	C4	None Detected									
A3	G4	None Detected									
A3	J3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042421002

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421002

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1900	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	120785
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaina Epstein	Sampled By Signature:	
No. of Samples in Shipment	20		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-100324-AB	DL267149	7,177.027	10/03/24 1059
MFL-AM02-100324-AB	DL267139	7,079.450	10/03/24 1114
MFL-AM03-100324-AB	DL267188	7,254.623	10/03/24 1305
MFL-AM07-100324-AB	DL267215	7,327.762	10/03/24 1343
MFL-FB01-100324-AB	DL267150	0	10/03/24 1200
MFL-AM05-100424-AB	DL267189	7,117.085	10/04/24 1056
MFL-AM02-100424-AB	DL267172	7,205.411	10/04/24 1110
MFL-AM03-100424-AB	DL267190	7,177.599	10/04/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 10/07/24 1100	Received by: FedEX
Date/Time: 10/9/24 9:51A			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of 2

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RSA

OrderID: 042421002

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421002

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAshlab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-100424-AB	DL267051	7,129.433	10/04/24 1318
MFL-FB01-100424-AB	DL267053	0	10/04/24 1200
MFL-AM05-100524-AB	DL267056	7,146.828	10/05/24 1055
MFL-AM02-100524-AB	DL267050	6,934.432	10/05/24 1119
MFL-AM03-100524-AB	DL267173	7,182.769	10/05/24 1253
MFL-AM07-100524-AB	DL267196	7,239.462	10/05/24 1319
MFL-FB01-100524-AB	DL267047	0	10/05/24 1200
MFL-AM05-100624-AB	DL267205	7,164.217	10/06/24 1100
MFL-AM02-100624-AB	DL267046	7,020.299	10/06/24 1116
MFL-AM03-100624-AB	DL267161	7,249.322	10/06/24 1255
MFL-AM07-100624-AB	DL267208	7,159.299	10/06/24 1320
MFL-FB01-100624-AB	DL267212	0	10/06/24 1200

RECEIVED OCT - 8 2024

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/07/24 1100	Received by: FedEx	Date/Time 10/9/24 9:51 A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/16/2024 and Shanna Vasser 10/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/03/2024 – 10/06/2024
Report No: 42421002

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100724-AB**	**Sample Description:**	**DL267193**
EMSL Sample Number:	042421228-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7151.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0001 **Customer Sample:** MFL-AM05-100724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J4	None Detected									
B2	G6	None Detected									
B2	B7	None Detected									
B3	G8	None Detected									
B3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100724-AB**		**Sample Description:**	**DL267186**
EMSL Sample Number:	042421228-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7098.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0002 **Customer Sample:** MFL-AM02-100724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A3	None Detected									
B5	D5	None Detected									
B5	G7	None Detected									
B6	J2	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100724-AB**	**Sample Description:**	**DL267185**
EMSL Sample Number:	042421228-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7186.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0003 **Customer Sample:** MFL-AM03-100724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A4	None Detected									
C2	D7	None Detected									
C2	G8	None Detected									
C3	D8	None Detected									
C3	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100724-AB**		**Sample Description:**	**DL267177**
EMSL Sample Number:	042421228-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4917.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.11	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.11**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0004 **Customer Sample:** MFL-AM07-100724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B3	None Detected									
C5	E7	None Detected									
C5	G9	None Detected									
C5	I6	None Detected									
C6	B8	None Detected									
C6	E10	None Detected									
C6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100724-AB**		**Sample Description:**	**DL267195**
EMSL Sample Number:	042421228-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0005 **Customer Sample:** MFL-FB01-100724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J4	None Detected									
D2	H1	None Detected									
D2	F4	None Detected									
D2	D6	None Detected									
D2	B3	None Detected									
D3	A9	None Detected									
D3	C10	None Detected									
D3	E7	None Detected									
D3	G9	None Detected									
D3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100824-AB**		**Sample Description:**	**DL267170**
EMSL Sample Number:	042421228-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0006 **Customer Sample:** MFL-AM05-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J3	None Detected									
D5	G4	None Detected									
D5	C6	None Detected									
D6	B3	None Detected									
D6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100824-AB**	**Sample Description:**	**DL267184**
EMSL Sample Number:	042421228-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6992.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0007 **Customer Sample:** MFL-AM02-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	J3	None Detected									
E3	G6	None Detected									
E3	C7	None Detected									
E4	A4	None Detected									
E4	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100824-AB**		**Sample Description:**	**DL267231**
EMSL Sample Number:	042421228-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0008 **Customer Sample:** MFL-AM03-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	F2	None Detected									
E5	C5	None Detected									
E6	B5	None Detected									
E6	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
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Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100824-AB**	**Sample Description:**	**DL267277**
EMSL Sample Number:	042421228-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7157.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0009 **Customer Sample:** MFL-AM07-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A6	None Detected									
F2	D7	None Detected									
F2	G4	None Detected									
F3	I6	None Detected									
F3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-100824-AB** **Sample Description:** **DL267260**

EMSL Sample Number:	042421228-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042421228**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0010 **Customer Sample:** MFL-FB01-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A5	None Detected									
F5	C8	None Detected									
F5	E9	None Detected									
F5	G4	None Detected									
F5	I8	None Detected									
F6	J5	None Detected									
F6	H4	None Detected									
F6	F7	None Detected									
F6	D4	None Detected									
F6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-100824-AB**		**Sample Description:**	**DL267261**
EMSL Sample Number:	042421228-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042421228**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0011 **Customer Sample:** MFL-LB01-100824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A7	None Detected									
G2	C9	None Detected									
G2	E9	None Detected									
G2	G7	None Detected									
G2	I8	None Detected									
G3	A10	None Detected									
G3	C10	None Detected									
G3	E9	None Detected									
G3	G9	None Detected									
G3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-100924-AB**	**Sample Description:**	**DL267238**
EMSL Sample Number:	042421228-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7135.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0012 **Customer Sample:** MFL-AM05-100924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A4	None Detected									
G5	C6	None Detected									
G5	G7	None Detected									
G6	A3	None Detected									
G6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-100924-AB**	**Sample Description:**	**DL267385**
EMSL Sample Number:	042421228-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7041.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0013 **Customer Sample:** MFL-AM02-100924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A10	None Detected									
H2	D7	None Detected									
H2	G6	None Detected									
H3	B10	None Detected									
H3	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-100924-AB**		**Sample Description:**	**DL267279**
EMSL Sample Number:	042421228-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7235.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0014 **Customer Sample:** MFL-AM03-100924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A6	None Detected									
H5	D3	None Detected									
H5	I4	None Detected									
H6	B8	None Detected									
H6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-100924-AB**	**Sample Description:**	**DL267694**
EMSL Sample Number:	042421228-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	4997.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0010**	**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 38.63	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.63**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0015 **Customer Sample:** MFL-AM07-100924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J7	None Detected									
I2	G6	None Detected									
I2	C8	None Detected									
I3	C5	None Detected									
I3	F7	None Detected									
I3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/21/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-100924-AB**		**Sample Description:**	**DL267242**
EMSL Sample Number:	042421228-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0016 **Customer Sample:** MFL-FB01-100924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J4	None Detected									
K1	H6	None Detected									
K1	F2	None Detected									
K1	D7	None Detected									
K1	B8	None Detected									
K2	J6	None Detected									
K2	H3	None Detected									
K2	F7	None Detected									
K2	D5	None Detected									
K2	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421228
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/14/2024 08:50 AM
Analysis Date:	10/18/2024
Report Date:	10/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042421228-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421228
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421228-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A5	None Detected									
A1	C6	None Detected									
A1	E4	None Detected									
A1	G5	None Detected									
A1	I7	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E7	None Detected									
A2	G9	None Detected									
A2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042421228

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421228

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 2024 OCT 14 AM 9:05

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-100724-AB	DL267193	7,151.645	10/07/24 1054
MFL-AM02-100724-AB	DL267186	7,098.446	10/07/24 1109
MFL-AM03-100724-AB	DL267185	7,186.483	10/07/24 1301
MFL-AM07-100724-AB	DL267177	4,917.739	10/07/24 1323
MFL-FB01-100724-AB	DL267195	0	10/07/24 1200
MFL-AM05-100824-AB	DL267170	7,205.043	10/08/24 1101
MFL-AM02-100824-AB	DL267184	6,992.882	10/08/24 1121
MFL-AM03-100824-AB	DL267231	7,163.997	10/08/24 1257

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

16

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 10/10/24 1100
Received by: FedEx Date/Time 10/14/24 8:50A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042421228

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421228

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-100824-AB	DL267277	7,157.361	10/08/24 1317
MFL-FB01-100824-AB	DL267260	0	10/08/24 1200
MFL-LB01-100824-AB	DL267261	0	10/08/24 1200
MFL-AM05-100924-AB	DL267238	7,135.712	10/09/24 1057
MFL-AM02-100924-AB	DL267385	7,041.232	10/09/24 1113
MFL-AM03-100924-AB	DL267279	7,235.621	10/09/24 1305
MFL-AM07-100924-AB	DL267694	4,996.954	10/09/24 1333
MFL-FB01-100924-AB	DL267242	0	10/09/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 OCT 14 AM 9:05

Method of Shipment: Fedex

Sample Condition Upon Receipt:

Relinquished by:	Date/Time: 10/10/24 1100	Received by: - FedEx	Date/Time 10/14/24 8:50A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/21/2024 and Shanna Vasser 10/22/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/07/2024 – 10/09/2024
Report No: 42421228

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 22, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 10/14/24 10:20.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-100324-HM	4101441-01	Air	10/03/24 23:59	10/14/24 10:20
MFL-AM02-100324-HM	4101441-02	Air	10/03/24 23:59	10/14/24 10:20
MFL-AM03-100324-HM	4101441-03	Air	10/03/24 23:59	10/14/24 10:20
MFL-AM07-100324-HM	4101441-04	Air	10/03/24 23:59	10/14/24 10:20
MFL-FB01-100324-HM	4101441-05	Air	10/03/24 00:00	10/14/24 10:20
MFL-AM05-100424-HM	4101441-06	Air	10/04/24 23:59	10/14/24 10:20
MFL-AM02-100424-HM	4101441-07	Air	10/04/24 23:59	10/14/24 10:20
MFL-AM03-100424-HM	4101441-08	Air	10/04/24 23:59	10/14/24 10:20
MFL-AM07-100424-HM	4101441-09	Air	10/04/24 23:59	10/14/24 10:20
MFL-AM05-100524-HM	4101441-10	Air	10/05/24 23:59	10/14/24 10:20
MFL-AM02-100524-HM	4101441-11	Air	10/05/24 23:59	10/14/24 10:20
MFL-AM03-100524-HM	4101441-12	Air	10/05/24 23:59	10/14/24 10:20
MFL-AM07-100524-HM	4101441-13	Air	10/05/24 23:59	10/14/24 10:20
MFL-FB01-100524-HM	4101441-14	Air	10/03/24 00:00	10/14/24 10:20
MFL-AM05-100624-HM	4101441-15	Air	10/06/24 23:59	10/14/24 10:20
MFL-AM02-100624-HM	4101441-16	Air	10/06/24 23:59	10/14/24 10:20
MFL-AM03-100624-HM	4101441-17	Air	10/06/24 23:59	10/14/24 10:20
MFL-AM07-100624-HM	4101441-18	Air	10/06/24 23:59	10/14/24 10:20
MFL-AM05-100724-HM	4101441-19	Air	10/07/24 23:59	10/14/24 10:20
MFL-AM02-100724-HM	4101441-20	Air	10/07/24 23:59	10/14/24 10:20
MFL-AM03-100724-HM	4101441-21	Air	10/07/24 23:59	10/14/24 10:20

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FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-100724-HM	4101441-22	Air	10/07/24 23:59	10/14/24 10:20
MFL-FB01-100724-HM	4101441-23	Air	10/07/24 00:00	10/14/24 10:20
MFL-AM05-100824-HM	4101441-24	Air	10/08/24 23:59	10/14/24 10:20
MFL-AM02-100824-HM	4101441-25	Air	10/08/24 23:59	10/14/24 10:20
MFL-AM03-100824-HM	4101441-26	Air	10/08/24 23:59	10/14/24 10:20
MFL-AM07-100824-HM	4101441-27	Air	10/08/24 23:59	10/14/24 10:20
MFL-AM05-100924-HM	4101441-28	Air	10/09/24 23:59	10/14/24 10:20
MFL-AM02-100924-HM	4101441-29	Air	10/09/24 23:59	10/14/24 10:20
MFL-AM03-100924-HM	4101441-30	Air	10/09/24 23:59	10/14/24 10:20
MFL-AM07-100924-HM	4101441-31	Air	10/09/24 23:59	10/14/24 10:20
MFL-FB01-100924-HM	4101441-32	Air	10/09/24 00:00	10/14/24 10:20

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FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100324-HM
Matrix: Air
Lab ID: 4101441-01
Sample Volume: 2087.165 m³
Filter ID:
Sampled: 10/03/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 02:10

Comments: Q8522548 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.126**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.228**		**0.00730**
Barium	**7440-39-3**	**4.11**		**0.834**
Beryllium	**7440-41-7**	**0.00991**		**0.00249**
Cadmium	7440-43-9	0.0204	U	0.0578
Chromium	**7440-47-3**	**2.04**		**1.72**
Cobalt	**7440-48-4**	**0.341**		**0.0340**
Copper	**7440-50-8**	**32.8**		**2.05**
Lead	**7439-92-1**	**0.602**		**0.167**
Manganese	**7439-96-5**	**10.0**		**1.47**
Molybdenum	**7439-98-7**	**1.80**		**0.280**
Nickel	**7440-02-0**	**1.32**		**0.508**
Selenium	**7782-49-2**	**0.177**		**0.00698**
Thallium	**7440-28-0**	**0.00131**		**4.59E-4**
Vanadium	**7440-62-2**	**1.30**		**0.0412**
Zinc	7440-66-6	13.2	U	59.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100324-HM
Matrix: Air
Lab ID: 4101441-02
Sample Volume: 2089.846 m³
Filter ID:
Sampled: 10/03/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 02:44

Comments: Q8522546 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.256**		**0.00729**
Barium	**7440-39-3**	**5.70**		**0.833**
Beryllium	**7440-41-7**	**0.0167**		**0.00249**
Cadmium	7440-43-9	0.00872	U	0.0577
Chromium	**7440-47-3**	**2.78**		**1.72**
Cobalt	**7440-48-4**	**0.615**		**0.0339**
Copper	**7440-50-8**	**22.4**		**2.05**
Lead	**7439-92-1**	**0.593**		**0.167**
Manganese	**7439-96-5**	**16.2**		**1.47**
Molybdenum	**7439-98-7**	**1.50**		**0.279**
Nickel	**7440-02-0**	**1.95**		**0.508**
Selenium	**7782-49-2**	**0.232**		**0.00698**
Thallium	**7440-28-0**	**0.00104**		**4.59E-4**
Vanadium	**7440-62-2**	**2.08**		**0.0412**
Zinc	7440-66-6	13.7	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100324-HM
Matrix: Air
Lab ID: 4101441-03
Sample Volume: 2092.282 m³
Filter ID:
Sampled: 10/03/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 03:00

Comments: Q8522543 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0535**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.136**		**0.00729**
Barium	**7440-39-3**	**2.50**		**0.832**
Beryllium	**7440-41-7**	**0.0162**		**0.00249**
Cadmium	7440-43-9	0.00470	U	0.0576
Chromium	**7440-47-3**	**2.16**		**1.72**
Cobalt	**7440-48-4**	**0.343**		**0.0339**
Copper	**7440-50-8**	**45.9**		**2.05**
Lead	**7439-92-1**	**0.187**		**0.166**
Manganese	**7439-96-5**	**9.06**		**1.47**
Molybdenum	**7439-98-7**	**1.79**		**0.279**
Nickel	**7440-02-0**	**1.52**		**0.507**
Selenium	**7782-49-2**	**0.150**		**0.00697**
Thallium	**7440-28-0**	**6.96E-4**		**4.58E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0411**
Zinc	7440-66-6	8.01	U	59.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100324-HM
Matrix: Air
Lab ID: 4101441-04
Sample Volume: 1861.448 m³
Filter ID:
Sampled: 10/03/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 03:14

Comments: Q8522542 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0900**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.201**		**0.00819**
Barium	**7440-39-3**	**3.31**		**0.935**
Beryllium	**7440-41-7**	**0.0129**		**0.00280**
Cadmium	7440-43-9	0.00819	U	0.0648
Chromium	**7440-47-3**	**3.99**		**1.93**
Cobalt	**7440-48-4**	**0.356**		**0.0381**
Copper	**7440-50-8**	**27.5**		**2.30**
Lead	**7439-92-1**	**0.304**		**0.187**
Manganese	**7439-96-5**	**11.5**		**1.65**
Molybdenum	**7439-98-7**	**1.47**		**0.314**
Nickel	**7440-02-0**	**1.65**		**0.570**
Selenium	**7782-49-2**	**0.169**		**0.00783**
Thallium	**7440-28-0**	**7.11E-4**		**5.15E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0462**
Zinc	7440-66-6	9.02	U	67.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-100324-HM
Matrix: Air
Lab ID: 4101441-05
Sample Volume: 2087.165 m³
Filter ID:
Sampled: 10/03/24 00:00
Received: 10/14/24 10:20
Analysis Date: 10/16/24 03:28

Comments: Q8522537 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	SL, U	0.0301
Arsenic	7440-38-2	0.00154	U	0.00730
Barium	7440-39-3	0.742	U	0.834
Beryllium	7440-41-7	3.93E-4	U	0.00249
Cadmium	7440-43-9	6.46E-4	U	0.0578
Chromium	7440-47-3	0.828	U	1.72
Cobalt	7440-48-4	0.0104	U	0.0340
Copper	7440-50-8	0.269	U	2.05
Lead	7439-92-1	0.0233	U	0.167
Manganese	7439-96-5	0.157	U	1.47
Molybdenum	7439-98-7	0.127	U	0.280
Nickel	7440-02-0	0.407	U	0.508
Selenium	7782-49-2	0.00290	U	0.00698
Thallium	7440-28-0	1.02E-4	U	4.59E-4
Vanadium	7440-62-2	0.0109	U	0.0412
Zinc	7440-66-6	3.41	U	59.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100424-HM
Matrix: Air
Lab ID: 4101441-06
Sample Volume: 2046.562 m³
Filter ID:
Sampled: 10/04/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 03:42

Comments: Q8522540 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.296**		**0.00745**
Barium	**7440-39-3**	**5.68**		**0.851**
Beryllium	**7440-41-7**	**0.0156**		**0.00254**
Cadmium	7440-43-9	0.0159	U	0.0589
Chromium	**7440-47-3**	**3.24**		**1.76**
Cobalt	**7440-48-4**	**0.649**		**0.0347**
Copper	**7440-50-8**	**39.1**		**2.09**
Lead	**7439-92-1**	**0.715**		**0.170**
Manganese	**7439-96-5**	**17.5**		**1.50**
Molybdenum	**7439-98-7**	**1.96**		**0.285**
Nickel	**7440-02-0**	**2.10**		**0.518**
Selenium	**7782-49-2**	**0.197**		**0.00712**
Thallium	**7440-28-0**	**0.00130**		**4.68E-4**
Vanadium	**7440-62-2**	**2.11**		**0.0421**
Zinc	7440-66-6	15.7	U	61.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100424-HM
Matrix: Air
Lab ID: 4101441-07
Sample Volume: 2092.479 m³
Filter ID:
Sampled: 10/04/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 03:57

Comments: Q8522539 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.246**		**0.00729**
Barium	**7440-39-3**	**4.54**		**0.832**
Beryllium	**7440-41-7**	**0.0136**		**0.00249**
Cadmium	7440-43-9	0.00937	U	0.0576
Chromium	**7440-47-3**	**2.77**		**1.72**
Cobalt	**7440-48-4**	**0.534**		**0.0339**
Copper	**7440-50-8**	**22.9**		**2.04**
Lead	**7439-92-1**	**0.617**		**0.166**
Manganese	**7439-96-5**	**13.9**		**1.47**
Molybdenum	**7439-98-7**	**1.27**		**0.279**
Nickel	**7440-02-0**	**1.60**		**0.507**
Selenium	**7782-49-2**	**0.199**		**0.00697**
Thallium	**7440-28-0**	**0.00101**		**4.58E-4**
Vanadium	**7440-62-2**	**1.72**		**0.0411**
Zinc	7440-66-6	12.3	U	59.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100424-HM
Matrix: Air
Lab ID: 4101441-08
Sample Volume: 2048.775 m³
Filter ID:
Sampled: 10/04/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 04:12

Comments: Q8522538 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0671**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.230**		**0.00744**
Barium	**7440-39-3**	**3.58**		**0.850**
Beryllium	**7440-41-7**	**0.0270**		**0.00254**
Cadmium	7440-43-9	0.0100	U	0.0588
Chromium	**7440-47-3**	**3.81**		**1.76**
Cobalt	**7440-48-4**	**0.680**		**0.0346**
Copper	**7440-50-8**	**51.3**		**2.09**
Lead	**7439-92-1**	**0.387**		**0.170**
Manganese	**7439-96-5**	**16.0**		**1.50**
Molybdenum	**7439-98-7**	**2.19**		**0.285**
Nickel	**7440-02-0**	**2.13**		**0.518**
Selenium	**7782-49-2**	**0.179**		**0.00712**
Thallium	**7440-28-0**	**0.00113**		**4.68E-4**
Vanadium	**7440-62-2**	**1.67**		**0.0420**
Zinc	7440-66-6	9.54	U	61.0

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FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100424-HM
Matrix: Air
Lab ID: 4101441-09
Sample Volume: 1812.928 m³
Filter ID:
Sampled: 10/04/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 04:27

Comments: Q8522536 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0840**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.339**		**0.00841**
Barium	**7440-39-3**	**10.7**		**0.960**
Beryllium	**7440-41-7**	**0.0740**		**0.00287**
Cadmium	7440-43-9	0.0125	U	0.0665
Chromium	**7440-47-3**	**3.79**		**1.98**
Cobalt	**7440-48-4**	**1.08**		**0.0391**
Copper	**7440-50-8**	**71.1**		**2.36**
Lead	**7439-92-1**	**0.786**		**0.192**
Manganese	**7439-96-5**	**42.2**		**1.70**
Molybdenum	**7439-98-7**	**1.67**		**0.322**
Nickel	**7440-02-0**	**2.15**		**0.585**
Selenium	**7782-49-2**	**0.301**		**0.00804**
Thallium	**7440-28-0**	**0.00230**		**5.29E-4**
Vanadium	**7440-62-2**	**3.01**		**0.0475**
Zinc	7440-66-6	12.8	U	68.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100524-HM
Matrix: Air
Lab ID: 4101441-10
Sample Volume: 2005.012 m³
Filter ID:
Sampled: 10/05/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 05:35

Comments: Q8522534 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.203**		**0.00760**
Barium	**7440-39-3**	**3.24**		**0.868**
Beryllium	**7440-41-7**	**0.00665**		**0.00260**
Cadmium	7440-43-9	0.0255	U	0.0601
Chromium	7440-47-3	1.62	U	1.79
Cobalt	**7440-48-4**	**0.244**		**0.0354**
Copper	**7440-50-8**	**40.9**		**2.13**
Lead	**7439-92-1**	**0.823**		**0.174**
Manganese	**7439-96-5**	**6.89**		**1.53**
Molybdenum	**7439-98-7**	**2.16**		**0.291**
Nickel	**7440-02-0**	**1.00**		**0.529**
Selenium	**7782-49-2**	**0.117**		**0.00727**
Thallium	**7440-28-0**	**0.00110**		**4.78E-4**
Vanadium	**7440-62-2**	**0.860**		**0.0429**
Zinc	7440-66-6	13.7	U	62.3

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100524-HM
Matrix: Air
Lab ID: 4101441-11
Sample Volume: 2075.601 m³
Filter ID:
Sampled: 10/05/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/15/24 19:24

Comments: Q8522534 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.145**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.246**		**0.00734**
Barium	**7440-39-3**	**4.67**		**0.839**
Beryllium	**7440-41-7**	**0.00947**		**0.00251**
Cadmium	7440-43-9	0.0130	U	0.0581
Chromium	**7440-47-3**	**2.04**		**1.73**
Cobalt	**7440-48-4**	**0.337**		**0.0342**
Copper	**7440-50-8**	**19.8**		**2.06**
Lead	**7439-92-1**	**0.558**		**0.168**
Manganese	**7439-96-5**	**9.51**		**1.48**
Molybdenum	**7439-98-7**	**1.25**		**0.281**
Nickel	**7440-02-0**	**1.16**		**0.511**
Selenium	**7782-49-2**	**0.133**		**0.00702**
Thallium	**7440-28-0**	**0.00131**		**4.62E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0415**
Zinc	7440-66-6	13.0	U	60.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100524-HM
Matrix: Air
Lab ID: 4101441-12
Sample Volume: 1974.13 m³
Filter ID:
Sampled: 10/05/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 05:51

Comments: Q8522531 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0771**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.168**		**0.00772**
Barium	**7440-39-3**	**3.48**		**0.882**
Beryllium	**7440-41-7**	**0.0285**		**0.00264**
Cadmium	7440-43-9	0.0152	U	0.0611
Chromium	**7440-47-3**	**3.43**		**1.82**
Cobalt	**7440-48-4**	**0.552**		**0.0359**
Copper	**7440-50-8**	**77.0**		**2.17**
Lead	**7439-92-1**	**0.483**		**0.176**
Manganese	**7439-96-5**	**12.7**		**1.56**
Molybdenum	**7439-98-7**	**2.86**		**0.296**
Nickel	**7440-02-0**	**2.00**		**0.537**
Selenium	**7782-49-2**	**0.162**		**0.00738**
Thallium	**7440-28-0**	**0.00125**		**4.85E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0436**
Zinc	7440-66-6	13.0	U	63.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100524-HM
Matrix: Air
Lab ID: 4101441-13
Sample Volume: 1946.241 m³
Filter ID:
Sampled: 10/05/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 06:06

Comments: Q8522526 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.154**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.135**		**0.00783**
Barium	**7440-39-3**	**2.43**		**0.894**
Beryllium	**7440-41-7**	**0.00743**		**0.00268**
Cadmium	**7440-43-9**	**0.461**		**0.0619**
Chromium	**7440-47-3**	**1.92**		**1.85**
Cobalt	**7440-48-4**	**0.212**		**0.0364**
Copper	**7440-50-8**	**48.6**		**2.20**
Lead	**7439-92-1**	**0.382**		**0.179**
Manganese	**7439-96-5**	**6.49**		**1.58**
Molybdenum	**7439-98-7**	**1.47**		**0.300**
Nickel	**7440-02-0**	**1.04**		**0.545**
Selenium	**7782-49-2**	**0.116**		**0.00749**
Thallium	**7440-28-0**	**9.66E-4**		**4.92E-4**
Vanadium	**7440-62-2**	**0.735**		**0.0442**
Zinc	7440-66-6	9.58	U	64.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-100524-HM
Matrix: Air
Lab ID: 4101441-14
Sample Volume: 2005.012 m³
Filter ID:
Sampled: 10/03/24 00:00
Received: 10/14/24 10:20
Analysis Date: 10/16/24 06:20

Comments: Q8522525 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0313
Arsenic	7440-38-2	0.00378	U	0.00760
Barium	7440-39-3	0.810	U	0.868
Beryllium	7440-41-7	5.50E-4	U	0.00260
Cadmium	7440-43-9	0.00106	U	0.0601
Chromium	7440-47-3	0.799	U	1.79
Cobalt	7440-48-4	0.0148	U	0.0354
Copper	7440-50-8	0.337	U	2.13
Lead	7439-92-1	0.0253	U	0.174
Manganese	7439-96-5	0.304	U	1.53
Molybdenum	7439-98-7	0.170	U	0.291
Nickel	7440-02-0	0.403	U	0.529
Selenium	7782-49-2	0.00385	U	0.00727
Thallium	7440-28-0	1.22E-4	U	4.78E-4
Vanadium	7440-62-2	0.0240	U	0.0429
Zinc	7440-66-6	4.10	U	62.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100624-HM
Matrix: Air
Lab ID: 4101441-15
Sample Volume: 2048.673 m³
Filter ID:
Sampled: 10/06/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 06:34

Comments: Q8522522 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.152**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.262**		**0.00744**
Barium	**7440-39-3**	**4.55**		**0.850**
Beryllium	**7440-41-7**	**0.00668**		**0.00254**
Cadmium	7440-43-9	0.0127	U	0.0588
Chromium	7440-47-3	1.58	U	1.76
Cobalt	**7440-48-4**	**0.192**		**0.0346**
Copper	**7440-50-8**	**24.3**		**2.09**
Lead	**7439-92-1**	**0.577**		**0.170**
Manganese	**7439-96-5**	**6.15**		**1.50**
Molybdenum	**7439-98-7**	**1.53**		**0.285**
Nickel	**7440-02-0**	**0.888**		**0.518**
Selenium	**7782-49-2**	**0.175**		**0.00712**
Thallium	**7440-28-0**	**9.41E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**0.797**		**0.0420**
Zinc	7440-66-6	12.6	U	61.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100624-HM
Matrix: Air
Lab ID: 4101441-16
Sample Volume: 2126.578 m³
Filter ID:
Sampled: 10/06/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 06:50

Comments: Q8522523 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.186**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.535**		**0.00717**
Barium	**7440-39-3**	**4.60**		**0.819**
Beryllium	**7440-41-7**	**0.00786**		**0.00245**
Cadmium	7440-43-9	0.0302	U	0.0567
Chromium	**7440-47-3**	**1.78**		**1.69**
Cobalt	**7440-48-4**	**0.260**		**0.0334**
Copper	**7440-50-8**	**56.9**		**2.01**
Lead	**7439-92-1**	**1.37**		**0.164**
Manganese	**7439-96-5**	**8.42**		**1.45**
Molybdenum	**7439-98-7**	**2.59**		**0.275**
Nickel	**7440-02-0**	**1.02**		**0.499**
Selenium	**7782-49-2**	**0.168**		**0.00686**
Thallium	**7440-28-0**	**0.00109**		**4.51E-4**
Vanadium	**7440-62-2**	**0.971**		**0.0405**
Zinc	7440-66-6	18.4	U	58.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100624-HM
Matrix: Air
Lab ID: 4101441-17
Sample Volume: 1992.656 m³
Filter ID:
Sampled: 10/06/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 07:07

Comments: Q8522521 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0671**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.149**		**0.00765**
Barium	**7440-39-3**	**2.79**		**0.874**
Beryllium	**7440-41-7**	**0.0153**		**0.00261**
Cadmium	7440-43-9	0.0121	U	0.0605
Chromium	**7440-47-3**	**2.34**		**1.80**
Cobalt	**7440-48-4**	**0.409**		**0.0356**
Copper	**7440-50-8**	**72.0**		**2.15**
Lead	**7439-92-1**	**0.328**		**0.175**
Manganese	**7439-96-5**	**8.97**		**1.54**
Molybdenum	**7439-98-7**	**2.97**		**0.293**
Nickel	**7440-02-0**	**3.98**		**0.532**
Selenium	**7782-49-2**	**0.205**		**0.00732**
Thallium	**7440-28-0**	**0.00115**		**4.81E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0432**
Zinc	7440-66-6	15.6	U	62.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100624-HM
Matrix: Air
Lab ID: 4101441-18
Sample Volume: 2034.014 m³
Filter ID:
Sampled: 10/06/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 07:35

Comments: Q8522520 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.246**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.387**		**0.00750**
Barium	**7440-39-3**	**4.84**		**0.856**
Beryllium	**7440-41-7**	**0.0240**		**0.00256**
Cadmium	7440-43-9	0.0216	U	0.0593
Chromium	**7440-47-3**	**4.09**		**1.77**
Cobalt	**7440-48-4**	**0.619**		**0.0349**
Copper	**7440-50-8**	**35.4**		**2.10**
Lead	**7439-92-1**	**0.637**		**0.171**
Manganese	**7439-96-5**	**21.3**		**1.51**
Molybdenum	**7439-98-7**	**1.67**		**0.287**
Nickel	**7440-02-0**	**3.26**		**0.522**
Selenium	**7782-49-2**	**0.239**		**0.00717**
Thallium	**7440-28-0**	**0.00161**		**4.71E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0423**
Zinc	7440-66-6	15.3	U	61.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100724-HM
Matrix: Air
Lab ID: 4101441-19
Sample Volume: 1940.519 m³
Filter ID:
Sampled: 10/07/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 07:50

Comments: Q8522518 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.337**		**0.00786**
Barium	**7440-39-3**	**4.17**		**0.897**
Beryllium	**7440-41-7**	**0.00940**		**0.00268**
Cadmium	7440-43-9	0.0182	U	0.0621
Chromium	**7440-47-3**	**2.13**		**1.85**
Cobalt	**7440-48-4**	**0.346**		**0.0366**
Copper	**7440-50-8**	**69.7**		**2.21**
Lead	**7439-92-1**	**0.840**		**0.179**
Manganese	**7439-96-5**	**9.52**		**1.58**
Molybdenum	**7439-98-7**	**3.26**		**0.301**
Nickel	**7440-02-0**	**1.36**		**0.547**
Selenium	**7782-49-2**	**0.219**		**0.00751**
Thallium	**7440-28-0**	**0.00148**		**4.94E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0444**
Zinc	7440-66-6	14.3	U	64.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100724-HM
Matrix: Air
Lab ID: 4101441-20
Sample Volume: 2171.119 m³
Filter ID:
Sampled: 10/07/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 08:58

Comments: Q8522517 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.187**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.301**		**0.00702**
Barium	**7440-39-3**	**6.22**		**0.802**
Beryllium	**7440-41-7**	**0.0125**		**0.00240**
Cadmium	7440-43-9	0.0136	U	0.0555
Chromium	**7440-47-3**	**2.27**		**1.66**
Cobalt	**7440-48-4**	**0.447**		**0.0327**
Copper	**7440-50-8**	**22.4**		**1.97**
Lead	**7439-92-1**	**0.760**		**0.160**
Manganese	**7439-96-5**	**12.3**		**1.42**
Molybdenum	**7439-98-7**	**1.30**		**0.269**
Nickel	**7440-02-0**	**1.58**		**0.489**
Selenium	**7782-49-2**	**0.212**		**0.00671**
Thallium	**7440-28-0**	**0.00163**		**4.41E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0396**
Zinc	7440-66-6	15.4	U	57.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100724-HM
Matrix: Air
Lab ID: 4101441-21
Sample Volume: 1979.044 m³
Filter ID:
Sampled: 10/07/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 09:12

Comments: Q8522516 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0853**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.176**		**0.00770**
Barium	**7440-39-3**	**3.00**		**0.880**
Beryllium	**7440-41-7**	**0.0156**		**0.00263**
Cadmium	7440-43-9	0.0132	U	0.0609
Chromium	**7440-47-3**	**2.00**		**1.82**
Cobalt	**7440-48-4**	**0.318**		**0.0358**
Copper	**7440-50-8**	**53.0**		**2.16**
Lead	**7439-92-1**	**0.394**		**0.176**
Manganese	**7439-96-5**	**9.06**		**1.55**
Molybdenum	**7439-98-7**	**2.66**		**0.295**
Nickel	**7440-02-0**	**1.29**		**0.536**
Selenium	**7782-49-2**	**0.219**		**0.00737**
Thallium	**7440-28-0**	**0.00141**		**4.84E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0435**
Zinc	7440-66-6	9.17	U	63.1

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100724-HM
Matrix: Air
Lab ID: 4101441-22
Sample Volume: 1894.39 m³
Filter ID:
Sampled: 10/07/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 09:28

Comments: Q8522515 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.274**		**0.00805**
Barium	**7440-39-3**	**4.39**		**0.919**
Beryllium	**7440-41-7**	**0.0223**		**0.00275**
Cadmium	7440-43-9	0.0173	U	0.0636
Chromium	**7440-47-3**	**2.64**		**1.90**
Cobalt	**7440-48-4**	**0.466**		**0.0374**
Copper	**7440-50-8**	**45.8**		**2.26**
Lead	**7439-92-1**	**1.03**		**0.184**
Manganese	**7439-96-5**	**16.8**		**1.62**
Molybdenum	**7439-98-7**	**2.02**		**0.308**
Nickel	**7440-02-0**	**1.52**		**0.560**
Selenium	**7782-49-2**	**0.226**		**0.00770**
Thallium	**7440-28-0**	**0.00171**		**5.06E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0454**
Zinc	7440-66-6	17.9	U	66.0

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-100724-HM
Matrix: Air
Lab ID: 4101441-23
Sample Volume: 1940.519 m³
Filter ID:
Sampled: 10/07/24 00:00
Received: 10/14/24 10:20
Analysis Date: 10/16/24 09:44

Comments: Q8522508 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0190	SL, U	0.0324
Arsenic	7440-38-2	0.00273	U	0.00786
Barium	7440-39-3	0.801	U	0.897
Beryllium	7440-41-7	3.51E-4	U	0.00268
Cadmium	7440-43-9	6.10E-4	U	0.0621
Chromium	7440-47-3	0.850	U	1.85
Cobalt	7440-48-4	0.0121	U	0.0366
Copper	7440-50-8	0.290	U	2.21
Lead	7439-92-1	0.0244	U	0.179
Manganese	7439-96-5	0.191	U	1.58
Molybdenum	7439-98-7	0.133	U	0.301
Nickel	7440-02-0	0.377	U	0.547
Selenium	7782-49-2	0.00147	U	0.00751
Thallium	7440-28-0	7.01E-5	U	4.94E-4
Vanadium	7440-62-2	0.0137	U	0.0444
Zinc	7440-66-6	3.12	U	64.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100824-HM
Matrix: Air
Lab ID: 4101441-24
Sample Volume: 1979.948 m³
Filter ID:
Sampled: 10/08/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 09:58

Comments: Q8522513 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.410**		**0.00770**
Barium	**7440-39-3**	**5.29**		**0.879**
Beryllium	**7440-41-7**	**0.0111**		**0.00263**
Cadmium	7440-43-9	0.0211	U	0.0609
Chromium	**7440-47-3**	**2.46**		**1.82**
Cobalt	**7440-48-4**	**0.456**		**0.0358**
Copper	**7440-50-8**	**70.0**		**2.16**
Lead	**7439-92-1**	**1.12**		**0.176**
Manganese	**7439-96-5**	**13.5**		**1.55**
Molybdenum	**7439-98-7**	**3.60**		**0.295**
Nickel	**7440-02-0**	**1.38**		**0.536**
Selenium	**7782-49-2**	**0.209**		**0.00736**
Thallium	**7440-28-0**	**0.00120**		**4.84E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0435**
Zinc	7440-66-6	17.2	U	63.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100824-HM
Matrix: Air
Lab ID: 4101441-25
Sample Volume: 2180.953 m³
Filter ID:
Sampled: 10/08/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 10:14

Comments: Q8522511 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.385**		**0.00699**
Barium	**7440-39-3**	**7.02**		**0.798**
Beryllium	**7440-41-7**	**0.0192**		**0.00239**
Cadmium	7440-43-9	0.0108	U	0.0553
Chromium	**7440-47-3**	**3.57**		**1.65**
Cobalt	**7440-48-4**	**0.779**		**0.0325**
Copper	**7440-50-8**	**23.0**		**1.96**
Lead	**7439-92-1**	**0.746**		**0.160**
Manganese	**7439-96-5**	**19.3**		**1.41**
Molybdenum	**7439-98-7**	**1.40**		**0.268**
Nickel	**7440-02-0**	**2.39**		**0.486**
Selenium	**7782-49-2**	**0.220**		**0.00668**
Thallium	**7440-28-0**	**0.00146**		**4.39E-4**
Vanadium	**7440-62-2**	**2.43**		**0.0395**
Zinc	7440-66-6	15.0	U	57.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100824-HM
Matrix: Air
Lab ID: 4101441-26
Sample Volume: 1988.484 m³
Filter ID:
Sampled: 10/08/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 10:30

Comments: Q8522507 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0671**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.222**		**0.00767**
Barium	**7440-39-3**	**3.84**		**0.875**
Beryllium	**7440-41-7**	**0.0221**		**0.00262**
Cadmium	7440-43-9	0.0120	U	0.0606
Chromium	**7440-47-3**	**2.88**		**1.81**
Cobalt	**7440-48-4**	**0.600**		**0.0357**
Copper	**7440-50-8**	**67.8**		**2.15**
Lead	**7439-92-1**	**0.389**		**0.175**
Manganese	**7439-96-5**	**14.9**		**1.55**
Molybdenum	**7439-98-7**	**2.62**		**0.294**
Nickel	**7440-02-0**	**1.83**		**0.533**
Selenium	**7782-49-2**	**0.197**		**0.00733**
Thallium	**7440-28-0**	**0.00116**		**4.82E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0433**
Zinc	7440-66-6	12.9	U	62.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100824-HM
Matrix: Air
Lab ID: 4101441-27
Sample Volume: 1880.949 m³
Filter ID:
Sampled: 10/08/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 10:45

Comments: Q8522505 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.528**		**0.00810**
Barium	**7440-39-3**	**7.77**		**0.926**
Beryllium	**7440-41-7**	**0.0400**		**0.00277**
Cadmium	7440-43-9	0.0173	U	0.0641
Chromium	**7440-47-3**	**4.79**		**1.91**
Cobalt	**7440-48-4**	**1.15**		**0.0377**
Copper	**7440-50-8**	**75.3**		**2.27**
Lead	**7439-92-1**	**0.624**		**0.185**
Manganese	**7439-96-5**	**35.9**		**1.63**
Molybdenum	**7439-98-7**	**2.17**		**0.311**
Nickel	**7440-02-0**	**2.67**		**0.564**
Selenium	**7782-49-2**	**0.295**		**0.00775**
Thallium	**7440-28-0**	**0.00195**		**5.09E-4**
Vanadium	**7440-62-2**	**2.98**		**0.0458**
Zinc	7440-66-6	17.9	U	66.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100924-HM
Matrix: Air
Lab ID: 4101441-28
Sample Volume: 1946.229 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 11:00

Comments: Q8522504 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0323**
Arsenic	**7440-38-2**	**1.11**		**0.00783**
Barium	**7440-39-3**	**17.6**		**0.894**
Beryllium	**7440-41-7**	**0.0740**		**0.00268**
Cadmium	**7440-43-9**	**0.116**		**0.0619**
Chromium	**7440-47-3**	**13.5**		**1.85**
Cobalt	**7440-48-4**	**3.40**		**0.0364**
Copper	**7440-50-8**	**61.0**		**2.20**
Lead	**7439-92-1**	**2.43**		**0.179**
Manganese	**7439-96-5**	**78.8**		**1.58**
Molybdenum	**7439-98-7**	**2.19**		**0.300**
Nickel	**7440-02-0**	**9.37**		**0.545**
Selenium	**7782-49-2**	**0.414**		**0.00749**
Thallium	**7440-28-0**	**0.00407**		**4.92E-4**
Zinc	7440-66-6	47.2	U	64.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-100924-HM
Matrix: Air
Lab ID: 4101441-28RE1
Sample Volume: 1946.229 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 13:03

Comments: Q8522504 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**9.90**	D	**0.0884**

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100924-HM
Matrix: Air
Lab ID: 4101441-29
Sample Volume: 2137.35 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 11:19

Comments: Q8522503 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0294**
Arsenic	**7440-38-2**	**1.33**		**0.00713**
Barium	**7440-39-3**	**39.4**		**0.815**
Beryllium	**7440-41-7**	**0.0876**		**0.00244**
Cadmium	**7440-43-9**	**0.101**		**0.0564**
Chromium	**7440-47-3**	**14.9**		**1.68**
Cobalt	**7440-48-4**	**3.77**		**0.0332**
Copper	**7440-50-8**	**31.4**		**2.00**
Lead	**7439-92-1**	**3.05**		**0.163**
Manganese	**7439-96-5**	**85.6**		**1.44**
Molybdenum	**7439-98-7**	**1.13**		**0.273**
Nickel	**7440-02-0**	**9.74**		**0.496**
Selenium	**7782-49-2**	**0.442**		**0.00682**
Thallium	**7440-28-0**	**0.00379**		**4.48E-4**
Zinc	7440-66-6	41.5	U	58.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-100924-HM
Matrix: Air
Lab ID: 4101441-29RE1
Sample Volume: 2137.35 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 13:22

Comments: Q8522503 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**11.3**	D	**0.0805**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-100924-HM
Matrix: Air
Lab ID: 4101441-30
Sample Volume: 2005.173 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/16/24 12:32

Comments: Q8522502 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0420**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.264**		**0.00760**
Barium	**7440-39-3**	**5.79**		**0.868**
Beryllium	**7440-41-7**	**0.0601**		**0.00260**
Cadmium	7440-43-9	0.0280	U	0.0601
Chromium	**7440-47-3**	**5.54**		**1.79**
Cobalt	**7440-48-4**	**1.19**		**0.0354**
Copper	**7440-50-8**	**73.2**		**2.13**
Lead	**7439-92-1**	**0.715**		**0.174**
Manganese	**7439-96-5**	**26.9**		**1.53**
Molybdenum	**7439-98-7**	**2.76**		**0.291**
Nickel	**7440-02-0**	**3.24**		**0.529**
Selenium	**7782-49-2**	**0.274**		**0.00727**
Thallium	**7440-28-0**	**0.00181**		**4.78E-4**
Vanadium	**7440-62-2**	**2.97**		**0.0429**
Zinc	7440-66-6	14.7	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-100924-HM
Matrix: Air
Lab ID: 4101441-31
Sample Volume: 1938.659 m³
Filter ID:
Sampled: 10/09/24 23:59
Received: 10/14/24 10:20
Analysis Date: 10/15/24 23:17

Comments: Q8522500 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.622**		**0.00786**
Barium	**7440-39-3**	**6.55**		**0.898**
Beryllium	**7440-41-7**	**0.0401**		**0.00269**
Cadmium	7440-43-9	0.0304	U	0.0622
Chromium	**7440-47-3**	**5.17**		**1.85**
Cobalt	**7440-48-4**	**1.22**		**0.0366**
Copper	**7440-50-8**	**56.9**	QM-07	**2.21**
Lead	**7439-92-1**	**1.06**		**0.180**
Manganese	**7439-96-5**	**37.6**		**1.59**
Molybdenum	**7439-98-7**	**1.66**		**0.301**
Nickel	**7440-02-0**	**2.94**		**0.547**
Selenium	**7782-49-2**	**0.292**		**0.00752**
Thallium	**7440-28-0**	**0.00195**		**4.94E-4**
Vanadium	**7440-62-2**	**3.40**		**0.0444**
Zinc	7440-66-6	16.5	U	64.5

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-100924-HM
Matrix: Air
Lab ID: 4101441-32
Sample Volume: 1946.229 m³
Filter ID:
Sampled: 10/09/24 00:00
Received: 10/14/24 10:20
Analysis Date: 10/16/24 12:49

Comments: Q8522499 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0203	SL, U	0.0323
Arsenic	7440-38-2	0.00346	U	0.00783
Barium	7440-39-3	0.845	U	0.894
Beryllium	7440-41-7	5.50E-4	U	0.00268
Cadmium	7440-43-9	7.11E-4	U	0.0619
Chromium	7440-47-3	0.837	U	1.85
Cobalt	7440-48-4	0.0162	U	0.0364
Copper	7440-50-8	0.357	U	2.20
Lead	7439-92-1	0.0281	U	0.179
Manganese	7439-96-5	0.303	U	1.58
Molybdenum	7439-98-7	0.148	U	0.300
Nickel	7440-02-0	0.385	U	0.545
Selenium	7782-49-2	5.36E-4	U	0.00749
Thallium	7440-28-0	1.33E-4	U	4.92E-4
Vanadium	7440-62-2	0.0233	U	0.0442
Zinc	7440-66-6	6.43	U	64.2

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Blank (2410049-CCB1)				Prepared & Analyzed: 10/15/24						
Antimony	0.815		ng/l							
Arsenic	-2.41		ng/l							U
Barium	0.960		ng/l							
Beryllium	-0.214		ng/l							U
Cadmium	0.103		ng/l							
Chromium	-0.268		ng/l							U
Cobalt	-0.0867		ng/l							U
Copper	25.2		ng/l							
Lead	6.83		ng/l							
Manganese	2.20		ng/l							
Molybdenum	28.2		ng/l							
Nickel	3.54		ng/l							
Selenium	11.1		ng/l							
Thallium	1.27		ng/l							
Vanadium	-69.1		ng/l							U
Zinc	-31.5		ng/l							U
Calibration Blank (2410049-CCB2)				Prepared & Analyzed: 10/15/24						
Antimony	0.465		ng/l							
Arsenic	-3.73		ng/l							U
Barium	0.506		ng/l							
Beryllium	-0.330		ng/l							U
Cadmium	0.0462		ng/l							
Chromium	-1.19		ng/l							U
Cobalt	0.0234		ng/l							
Copper	8.87		ng/l							
Lead	2.47		ng/l							
Manganese	0.923		ng/l							
Molybdenum	5.35		ng/l							
Nickel	-0.0482		ng/l							U
Selenium	10.6		ng/l							
Thallium	0.946		ng/l							
Vanadium	-70.4		ng/l							U
Zinc	-41.8		ng/l							U
Calibration Blank (2410049-CCB3)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.563		ng/l							
Arsenic	-3.99		ng/l							U
Barium	0.0823		ng/l							
Beryllium	-0.836		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Blank (2410049-CCB3) Contin				Prepared: 10/15/24 Analyzed: 10/16/24						
Cadmium	0.0675		ng/l							
Chromium	-0.947		ng/l							U
Cobalt	-0.107		ng/l							U
Copper	5.28		ng/l							
Lead	2.27		ng/l							
Manganese	0.739		ng/l							
Molybdenum	6.14		ng/l							
Nickel	0.860		ng/l							
Selenium	-0.737		ng/l							U
Thallium	1.22		ng/l							
Vanadium	-74.5		ng/l							U
Zinc	-35.0		ng/l							U
Calibration Blank (2410049-CCB4)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.504		ng/l							
Arsenic	-5.30		ng/l							U
Barium	0.0909		ng/l							
Beryllium	-0.910		ng/l							U
Cadmium	0.00911		ng/l							
Chromium	-0.752		ng/l							U
Cobalt	-0.0220		ng/l							U
Copper	4.68		ng/l							
Lead	1.55		ng/l							
Manganese	0.667		ng/l							
Molybdenum	5.15		ng/l							
Nickel	2.28		ng/l							
Selenium	7.09		ng/l							
Thallium	0.757		ng/l							
Vanadium	-76.2		ng/l							U
Zinc	-45.4		ng/l							U
Calibration Blank (2410049-CCB5)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.425		ng/l							
Arsenic	-1.98		ng/l							U
Barium	1.12		ng/l							
Beryllium	-1.24		ng/l							U
Cadmium	-0.0185		ng/l							U
Chromium	-0.834		ng/l							U
Cobalt	-0.00575		ng/l							U
Copper	5.48		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Blank (2410049-CCB5) Contin				Prepared: 10/15/24 Analyzed: 10/16/24						
Lead	1.31		ng/l							
Manganese	0.280		ng/l							
Molybdenum	5.72		ng/l							
Nickel	2.52		ng/l							
Selenium	3.91		ng/l							
Thallium	0.869		ng/l							
Vanadium	-72.7		ng/l							U
Zinc	-46.5		ng/l							U
Calibration Blank (2410049-CCB6)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.443		ng/l							
Arsenic	-3.01		ng/l							U
Barium	1.01		ng/l							
Beryllium	-1.10		ng/l							U
Cadmium	-0.00272		ng/l							U
Chromium	-0.719		ng/l							U
Cobalt	0.111		ng/l							
Copper	6.23		ng/l							
Lead	1.44		ng/l							
Manganese	0.0709		ng/l							
Molybdenum	6.71		ng/l							
Nickel	0.381		ng/l							
Selenium	12.3		ng/l							
Thallium	0.794		ng/l							
Vanadium	-74.1		ng/l							U
Zinc	-34.1		ng/l							U
Calibration Blank (2410049-CCB7)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.582		ng/l							
Arsenic	-6.48		ng/l							U
Barium	0.826		ng/l							
Beryllium	-1.12		ng/l							U
Cadmium	0.0611		ng/l							
Chromium	-1.11		ng/l							U
Cobalt	-0.0699		ng/l							U
Copper	5.27		ng/l							
Lead	1.72		ng/l							
Manganese	0.910		ng/l							
Molybdenum	6.09		ng/l							
Nickel	0.236		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Blank (2410049-CCB7) Contin				Prepared: 10/15/24 Analyzed: 10/16/24						
Selenium	15.6		ng/l							
Thallium	0.874		ng/l							
Vanadium	-78.9		ng/l							U
Zinc	-34.9		ng/l							U
Calibration Check (2410049-CCV1)				Prepared & Analyzed: 10/15/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		99.2	90-110			
Chromium	238000		ng/l	240000		99.4	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	490000		ng/l	500000		97.9	90-110			
Molybdenum	49200		ng/l	50000		98.5	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19700		ng/l	20000		98.5	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2410049-CCV2)				Prepared & Analyzed: 10/15/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	524000		ng/l	500000		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Check (2410049-CCV3)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	484		ng/l	500.00		96.7	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2410049-CCV4)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51500		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2410049-CCV5)				Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5160		ng/l	5000.0		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Check (2410049-CCV5) Contin					Prepared: 10/15/24 Analyzed: 10/16/24					
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	52900		ng/l	50000		106	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2410049-CCV6)					Prepared: 10/15/24 Analyzed: 10/16/24					
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	217000		ng/l	200000		108	90-110			
Beryllium	5270		ng/l	5000.0		105	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	258000		ng/l	240000		108	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Calibration Check (2410049-CCV7)					Prepared: 10/15/24 Analyzed: 10/16/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	216000		ng/l	200000		108	90-110			
Beryllium	5300		ng/l	5000.0		106	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Calibration Check (2410049-CCV7) Contin					Prepared: 10/15/24 Analyzed: 10/16/24					
Lead	206000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	54100		ng/l	50000		108	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	534000		ng/l	500000		107	90-110			
High Cal Check (2410049-HCV1)					Prepared & Analyzed: 10/15/24					
Antimony	39300		ng/l	40000		98.1	95-105			
Arsenic	39700		ng/l	40000		99.4	95-105			
Barium	392000		ng/l	400000		97.9	95-105			
Beryllium	9860		ng/l	10000		98.6	95-105			
Cadmium	39300		ng/l	40000		98.2	95-105			
Chromium	477000		ng/l	480000		99.4	95-105			
Cobalt	98700		ng/l	100000		98.7	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.8	95-105			
Lead	395000		ng/l	400000		98.9	95-105			
Manganese	990000		ng/l	1.0000E6		99.0	95-105			
Molybdenum	98800		ng/l	100000		98.8	95-105			
Nickel	235000		ng/l	240000		98.0	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Vanadium	39700		ng/l	40000		99.3	95-105			
Zinc	989000		ng/l	1.0000E6		98.9	95-105			
Initial Cal Blank (2410049-ICB1)					Prepared & Analyzed: 10/15/24					
Antimony	0.759		ng/l							
Arsenic	-8.45		ng/l							U
Barium	0.621		ng/l							
Beryllium	-0.208		ng/l							U
Cadmium	4.13E-4		ng/l							
Chromium	-1.94		ng/l							U
Cobalt	-0.0519		ng/l							U
Copper	11.1		ng/l							
Lead	5.89		ng/l							
Manganese	2.16		ng/l							
Molybdenum	10.1		ng/l							
Nickel	0.986		ng/l							

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Initial Cal Blank (2410049-ICB1) Continu				Prepared & Analyzed: 10/15/24						
Selenium	7.55		ng/l							
Thallium	1.07		ng/l							
Vanadium	-70.3		ng/l							U
Zinc	-12.1		ng/l							U
Initial Cal Check (2410049-ICV1)				Prepared & Analyzed: 10/15/24						
Antimony	19400		ng/l	20000		96.9	90-110			
Arsenic	19000		ng/l	20000		95.0	90-110			
Barium	190000		ng/l	200000		95.1	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.5	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	490000		ng/l	500000		98.1	90-110			
Molybdenum	49100		ng/l	50000		98.1	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	493		ng/l	500.00		98.7	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Interference Check A (2410049-IFA1)				Prepared & Analyzed: 10/15/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	306000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410049 - B4J1506										
Interference Check B (2410049-IFB1)					Prepared & Analyzed: 10/15/24					
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20000		ng/l	20000		100	80-120			
Barium	199000		ng/l	200000		99.6	80-120			
Beryllium	4850		ng/l	5000.0		97.0	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	232000		ng/l	240000		96.7	80-120			
Cobalt	51600		ng/l	50000		103	80-120			
Copper	1.92E6		ng/l	2.0000E6		96.0	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	504000		ng/l	500000		101	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	117000		ng/l	120000		97.7	80-120			
Selenium	19300		ng/l	20000		96.3	80-120			
Thallium	522		ng/l	500.00		104	80-120			
Vanadium	19000		ng/l	20000		95.1	80-120			
Zinc	498000		ng/l	500000		99.6	80-120			
Batch B4J1506 - ICP-MS Extraction										
Blank (B4J1506-BLK1)					Prepared & Analyzed: 10/15/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J1506-BS1)					Prepared & Analyzed: 10/15/24					
Antimony	0.796	0.0386	ng/m³ Air	1.3829		57.6	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.3	80-120			
Barium	27.0	1.07	ng/m³ Air	27.658		97.6	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
LCS (B4J1506-BS1) Continued					Prepared & Analyzed: 10/15/24					
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	14.6	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.2	80-120			
Copper	28.8	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.9	80-120			
Manganese	8.29	1.89	ng/m³ Air	8.2975		99.9	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.18	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.5	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		96.9	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.2	80-120			
Zinc	92.5	76.8	ng/m³ Air	82.975		111	80-120			
LCS (B4J1506-BS2)					Prepared & Analyzed: 10/15/24					
Antimony	0.820	0.0386	ng/m³ Air	1.3829		59.3	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.0	80-120			
Barium	27.8	1.07	ng/m³ Air	27.658		100	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.9	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.4	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.48	0.359	ng/m³ Air	1.3829		107	80-120			
Nickel	3.18	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.6	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.5	80-120			
Vanadium	2.78	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	93.0	76.8	ng/m³ Air	82.975		112	80-120			
Duplicate (B4J1506-DUP1)		**Source: 4101441-11**			Prepared & Analyzed: 10/15/24					
Antimony	0.147	0.0303	ng/m³ Air		0.145			1.68	10	SL
Arsenic	0.226	0.00734	ng/m³ Air		0.246			8.45	10	
Barium	4.65	0.839	ng/m³ Air		4.67			0.628	10	
Beryllium	0.00892	0.00251	ng/m³ Air		0.00947			5.99	10	
Cadmium	ND	0.0581	ng/m³ Air		ND				10	U
Chromium	2.28	1.73	ng/m³ Air		2.04			11.1	10	
Cobalt	0.324	0.0342	ng/m³ Air		0.337			3.84	10	

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REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Duplicate (B4J1506-DUP1) Continued			**Source: 4101441-11**		Prepared & Analyzed: 10/15/24					
Copper	21.4	2.06	ng/m³ Air		19.8			7.69	10	
Lead	0.556	0.168	ng/m³ Air		0.558			0.200	10	
Manganese	9.24	1.48	ng/m³ Air		9.51			2.85	10	
Molybdenum	1.28	0.281	ng/m³ Air		1.25			2.42	10	
Nickel	1.13	0.511	ng/m³ Air		1.16			3.17	10	
Selenium	0.129	0.00702	ng/m³ Air		0.133			3.27	10	
Thallium	0.00124	4.62E-4	ng/m³ Air		0.00131			5.29	10	
Vanadium	1.11	0.0415	ng/m³ Air		1.14			2.29	10	
Zinc	ND	60.2	ng/m³ Air		ND				10	U
Duplicate (B4J1506-DUP2)			**Source: 4101441-31**		Prepared & Analyzed: 10/15/24					
Antimony	0.0984	0.0324	ng/m³ Air		0.122			21.3	10	SL
Arsenic	0.615	0.00786	ng/m³ Air		0.622			1.19	10	
Barium	6.34	0.898	ng/m³ Air		6.55			3.18	10	
Beryllium	0.0404	0.00269	ng/m³ Air		0.0401			0.828	10	
Cadmium	ND	0.0622	ng/m³ Air		ND				10	U
Chromium	5.17	1.85	ng/m³ Air		5.17			0.0661	10	
Cobalt	1.19	0.0366	ng/m³ Air		1.22			2.32	10	
Copper	56.5	2.21	ng/m³ Air		56.9			0.792	10	
Lead	1.10	0.180	ng/m³ Air		1.06			3.77	10	
Manganese	36.2	1.59	ng/m³ Air		37.6			3.77	10	
Molybdenum	1.60	0.301	ng/m³ Air		1.66			3.62	10	
Nickel	2.89	0.547	ng/m³ Air		2.94			1.61	10	
Selenium	0.290	0.00752	ng/m³ Air		0.292			0.472	10	
Thallium	0.00206	4.94E-4	ng/m³ Air		0.00195			5.55	10	
Vanadium	3.12	0.0444	ng/m³ Air		3.40			8.56	10	
Zinc	ND	64.5	ng/m³ Air		ND				10	U
Duplicate (B4J1506-DUP3)			**Source: 4101441-01**		Prepared: 10/15/24 Analyzed: 10/16/24					
Antimony	0.125	0.0301	ng/m³ Air		0.126			0.434	10	SL
Arsenic	0.222	0.00730	ng/m³ Air		0.228			2.63	10	
Barium	4.07	0.834	ng/m³ Air		4.11			0.917	10	
Beryllium	0.0100	0.00249	ng/m³ Air		0.00991			1.06	10	
Cadmium	ND	0.0578	ng/m³ Air		ND				10	U
Chromium	2.03	1.72	ng/m³ Air		2.04			0.714	10	
Cobalt	0.343	0.0340	ng/m³ Air		0.341			0.516	10	
Copper	32.6	2.05	ng/m³ Air		32.8			0.548	10	
Lead	0.601	0.167	ng/m³ Air		0.602			0.235	10	
Manganese	9.99	1.47	ng/m³ Air		10.0			0.570	10	
Molybdenum	1.78	0.280	ng/m³ Air		1.80			0.785	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Duplicate (B4J1506-DUP3) Continued		**Source: 4101441-01**		Prepared: 10/15/24 Analyzed: 10/16/24						
Nickel	1.32	0.508	ng/m³ Air		1.32			0.585	10	
Selenium	0.172	0.00698	ng/m³ Air		0.177			3.25	10	
Thallium	0.00124	4.59E-4	ng/m³ Air		0.00131			5.90	10	
Vanadium	1.29	0.0412	ng/m³ Air		1.30			1.11	10	
Zinc	ND	59.9	ng/m³ Air		ND				10	U
Duplicate (B4J1506-DUP4)		**Source: 4101441-17**		Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	0.0675	0.0315	ng/m³ Air		0.0671			0.599	10	SL
Arsenic	0.150	0.00765	ng/m³ Air		0.149			0.376	10	
Barium	2.81	0.874	ng/m³ Air		2.79			0.969	10	
Beryllium	0.0154	0.00261	ng/m³ Air		0.0153			0.375	10	
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	2.33	1.80	ng/m³ Air		2.34			0.419	10	
Cobalt	0.408	0.0356	ng/m³ Air		0.409			0.175	10	
Copper	71.2	2.15	ng/m³ Air		72.0			1.10	10	
Lead	0.327	0.175	ng/m³ Air		0.328			0.175	10	
Manganese	8.88	1.54	ng/m³ Air		8.97			1.02	10	
Molybdenum	2.99	0.293	ng/m³ Air		2.97			0.719	10	
Nickel	3.97	0.532	ng/m³ Air		3.98			0.327	10	
Selenium	0.193	0.00732	ng/m³ Air		0.205			6.05	10	
Thallium	0.00116	4.81E-4	ng/m³ Air		0.00115			0.850	10	
Vanadium	1.07	0.0432	ng/m³ Air		1.08			0.299	10	
Zinc	ND	62.7	ng/m³ Air		ND				10	U
Matrix Spike (B4J1506-MS1)		**Source: 4101441-11**		Prepared & Analyzed: 10/15/24						
Antimony	0.774	0.0303	ng/m³ Air	1.0840	0.145	58.0	80-120			SL
Arsenic	2.28	0.00734	ng/m³ Air	2.1680	0.246	94.0	80-120			
Barium	24.9	0.839	ng/m³ Air	21.680	4.67	93.1	80-120			
Beryllium	1.06	0.00251	ng/m³ Air	1.0840	0.00947	97.3	80-120			
Cadmium	1.08	0.0581	ng/m³ Air	1.0840	ND	99.7	80-120			
Chromium	13.2	1.73	ng/m³ Air	10.840	2.04	103	80-120			
Cobalt	1.39	0.0342	ng/m³ Air	1.0840	0.337	96.8	80-120			
Copper	42.5	2.06	ng/m³ Air	21.680	19.8	105	80-120			
Lead	11.3	0.168	ng/m³ Air	10.840	0.558	99.4	80-120			
Manganese	15.5	1.48	ng/m³ Air	6.5041	9.51	92.5	80-120			
Molybdenum	2.27	0.281	ng/m³ Air	1.0840	1.25	94.8	80-120			
Nickel	3.55	0.511	ng/m³ Air	2.1680	1.16	110	80-120			
Selenium	2.22	0.00702	ng/m³ Air	2.1680	0.133	96.1	80-120			
Thallium	0.105	4.62E-4	ng/m³ Air	0.10840	0.00131	95.3	80-120			
Vanadium	3.19	0.0415	ng/m³ Air	2.1680	1.14	94.6	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Matrix Spike (B4J1506-MS1) Continued Source: 4101441-11 Prepared & Analyzed: 10/15/24										
Zinc	80.8	60.2	ng/m³ Air	65.041	ND	124	80-120			
Matrix Spike (B4J1506-MS2) Source: 4101441-31 Prepared & Analyzed: 10/15/24										
Antimony	0.687	0.0324	ng/m³ Air	1.1606	0.122	48.7	80-120			SL
Arsenic	2.81	0.00786	ng/m³ Air	2.3212	0.622	94.4	80-120			
Barium	29.4	0.898	ng/m³ Air	23.212	6.55	98.4	80-120			
Beryllium	1.18	0.00269	ng/m³ Air	1.1606	0.0401	98.4	80-120			
Cadmium	1.19	0.0622	ng/m³ Air	1.1606	ND	103	80-120			
Chromium	16.6	1.85	ng/m³ Air	11.606	5.17	98.3	80-120			
Cobalt	2.37	0.0366	ng/m³ Air	1.1606	1.22	99.0	80-120			
Copper	82.5	2.21	ng/m³ Air	23.212	56.9	110	80-120			
Lead	13.0	0.180	ng/m³ Air	11.606	1.06	103	80-120			
Manganese	44.0	1.59	ng/m³ Air	6.9636	37.6	92.9	80-120			
Molybdenum	2.76	0.301	ng/m³ Air	1.1606	1.66	95.2	80-120			
Nickel	5.16	0.547	ng/m³ Air	2.3212	2.94	95.7	80-120			
Selenium	2.47	0.00752	ng/m³ Air	2.3212	0.292	93.8	80-120			
Thallium	0.113	4.94E-4	ng/m³ Air	0.11606	0.00195	95.7	80-120			
Vanadium	5.57	0.0444	ng/m³ Air	2.3212	3.40	93.4	80-120			
Zinc	87.9	64.5	ng/m³ Air	69.636	ND	126	80-120			
Matrix Spike Dup (B4J1506-MSD1) Source: 4101441-11 Prepared & Analyzed: 10/15/24										
Antimony	0.781	0.0303	ng/m³ Air	1.0840	0.145	58.7	80-120	0.843	20	SL
Arsenic	2.26	0.00734	ng/m³ Air	2.1680	0.246	93.1	80-120	0.900	20	
Barium	24.7	0.839	ng/m³ Air	21.680	4.67	92.3	80-120	0.749	20	
Beryllium	1.06	0.00251	ng/m³ Air	1.0840	0.00947	96.7	80-120	0.609	20	
Cadmium	1.08	0.0581	ng/m³ Air	1.0840	ND	100	80-120	0.319	20	
Chromium	12.4	1.73	ng/m³ Air	10.840	2.04	95.5	80-120	6.12	20	
Cobalt	1.36	0.0342	ng/m³ Air	1.0840	0.337	94.7	80-120	1.70	20	
Copper	41.4	2.06	ng/m³ Air	21.680	19.8	99.5	80-120	2.58	20	
Lead	11.2	0.168	ng/m³ Air	10.840	0.558	98.3	80-120	1.07	20	
Manganese	15.2	1.48	ng/m³ Air	6.5041	9.51	87.0	80-120	2.32	20	
Molybdenum	2.25	0.281	ng/m³ Air	1.0840	1.25	92.2	80-120	1.22	20	
Nickel	3.19	0.511	ng/m³ Air	2.1680	1.16	93.6	80-120	10.7	20	
Selenium	2.21	0.00702	ng/m³ Air	2.1680	0.133	96.0	80-120	0.118	20	
Thallium	0.105	4.62E-4	ng/m³ Air	0.10840	0.00131	95.4	80-120	0.167	20	
Vanadium	3.14	0.0415	ng/m³ Air	2.1680	1.14	92.4	80-120	1.51	20	
Zinc	79.1	60.2	ng/m³ Air	65.041	ND	122	80-120	2.16	20	
Matrix Spike Dup (B4J1506-MSD2) Source: 4101441-31 Prepared: 10/15/24 Analyzed: 10/16/24										
Antimony	0.666	0.0324	ng/m³ Air	1.1606	0.122	46.9	80-120	3.04	20	SL
Arsenic	2.76	0.00786	ng/m³ Air	2.3212	0.622	92.1	80-120	1.85	20	

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FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Matrix Spike Dup (B4J1506-MSD2) Contir			**Source: 4101441-31**		Prepared: 10/15/24		Analyzed: 10/16/24			
Barium	29.5	0.898	ng/m³ Air	23.212	6.55	98.7	80-120	0.304	20	
Beryllium	1.18	0.00269	ng/m³ Air	1.1606	0.0401	98.4	80-120	0.0171	20	
Cadmium	1.16	0.0622	ng/m³ Air	1.1606	ND	100	80-120	2.38	20	
Chromium	16.3	1.85	ng/m³ Air	11.606	5.17	95.9	80-120	1.71	20	
Cobalt	2.40	0.0366	ng/m³ Air	1.1606	1.22	101	80-120	1.09	20	
Copper	84.9	2.21	ng/m³ Air	23.212	56.9	120	80-120	2.84	20	QM-07
Lead	12.7	0.180	ng/m³ Air	11.606	1.06	101	80-120	2.13	20	
Manganese	45.3	1.59	ng/m³ Air	6.9636	37.6	112	80-120	2.93	20	
Molybdenum	2.85	0.301	ng/m³ Air	1.1606	1.66	103	80-120	3.35	20	
Nickel	5.10	0.547	ng/m³ Air	2.3212	2.94	92.8	80-120	1.30	20	
Selenium	2.45	0.00752	ng/m³ Air	2.3212	0.292	92.8	80-120	0.895	20	
Thallium	0.111	4.94E-4	ng/m³ Air	0.11606	0.00195	93.8	80-120	1.97	20	
Vanadium	5.60	0.0444	ng/m³ Air	2.3212	3.40	94.5	80-120	0.468	20	
Zinc	86.5	64.5	ng/m³ Air	69.636	ND	124	80-120	1.64	20	
Post Spike (B4J1506-PS1)			**Source: 4101441-11**		Prepared & Analyzed: 10/15/24					
Antimony	0.353	0.0303	ng/m³ Air	0.21680	0.145	95.9	75-125			SL
Arsenic	1.23	0.00734	ng/m³ Air	1.0840	0.246	91.1	75-125			
Barium	6.65	0.839	ng/m³ Air	2.1680	4.67	91.0	75-125			
Beryllium	0.219	0.00251	ng/m³ Air	0.21680	0.00947	96.5	75-125			
Cadmium	0.119	0.0581	ng/m³ Air	0.10840	ND	110	75-125			
Chromium	3.06	1.73	ng/m³ Air	1.0840	2.04	94.3	75-125			
Cobalt	0.547	0.0342	ng/m³ Air	0.21680	0.337	97.1	75-125			
Copper	31.0	2.06	ng/m³ Air	10.840	19.8	103	75-125			
Lead	21.8	0.168	ng/m³ Air	21.680	0.558	97.8	75-125			
Manganese	11.5	1.48	ng/m³ Air	2.1680	9.51	93.6	75-125			
Molybdenum	2.27	0.281	ng/m³ Air	1.0840	1.25	94.1	75-125			
Nickel	3.26	0.511	ng/m³ Air	2.1680	1.16	96.5	75-125			
Selenium	1.16	0.00702	ng/m³ Air	1.0840	0.133	94.6	75-125			
Thallium	0.0537	4.62E-4	ng/m³ Air	5.4201E-2	0.00131	96.6	75-125			
Vanadium	2.16	0.0415	ng/m³ Air	1.0840	1.14	94.0	75-125			
Zinc	ND	60.2	ng/m³ Air	21.680	ND		75-125			U
Post Spike (B4J1506-PS2)			**Source: 4101441-31**		Prepared: 10/15/24		Analyzed: 10/16/24			
Antimony	0.354	0.0324	ng/m³ Air	0.23212	0.122	99.8	75-125			SL
Arsenic	1.70	0.00786	ng/m³ Air	1.1606	0.622	92.8	75-125			
Barium	8.78	0.898	ng/m³ Air	2.3212	6.55	96.4	75-125			
Beryllium	0.243	0.00269	ng/m³ Air	0.23212	0.0401	87.4	75-125			
Cadmium	0.145	0.0622	ng/m³ Air	0.11606	ND	125	75-125			
Chromium	6.35	1.85	ng/m³ Air	1.1606	5.17	102	75-125			

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FILE #: 4205.00.003.001
REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Post Spike (B4J1506-PS2) Continued		**Source: 4101441-31**		Prepared: 10/15/24 Analyzed: 10/16/24						
Cobalt	1.47	0.0366	ng/m³ Air	0.23212	1.22	107	75-125			
Copper	69.6	2.21	ng/m³ Air	11.606	56.9	110	75-125			
Lead	24.5	0.180	ng/m³ Air	23.212	1.06	101	75-125			
Manganese	39.9	1.59	ng/m³ Air	2.3212	37.6	101	75-125			
Molybdenum	2.72	0.301	ng/m³ Air	1.1606	1.66	91.7	75-125			
Nickel	5.26	0.547	ng/m³ Air	2.3212	2.94	99.7	75-125			
Selenium	1.38	0.00752	ng/m³ Air	1.1606	0.292	93.7	75-125			
Thallium	0.0579	4.94E-4	ng/m³ Air	5.8030E-2	0.00195	96.3	75-125			
Vanadium	4.54	0.0444	ng/m³ Air	1.1606	3.40	97.6	75-125			
Zinc	ND	64.5	ng/m³ Air	23.212	ND		75-125			U
Dilution Check (B4J1506-SRL1)		**Source: 4101441-11**		Prepared & Analyzed: 10/15/24						
Antimony	ND	0.151	ng/m³ Air		ND				10	SL, U
Arsenic	0.243	0.0367	ng/m³ Air		0.246			1.20	10	
Barium	4.71	4.19	ng/m³ Air		4.67			0.749	10	
Beryllium	ND	0.0125	ng/m³ Air		ND				10	U
Cadmium	ND	0.290	ng/m³ Air		ND				10	U
Chromium	ND	8.66	ng/m³ Air		ND				10	U
Cobalt	0.343	0.171	ng/m³ Air		0.337			1.96	10	
Copper	20.1	10.3	ng/m³ Air		19.8			1.59	10	
Lead	ND	0.839	ng/m³ Air		ND				10	U
Manganese	9.67	7.41	ng/m³ Air		9.51			1.64	10	
Molybdenum	ND	1.41	ng/m³ Air		ND				10	U
Nickel	ND	2.56	ng/m³ Air		ND				10	U
Selenium	0.154	0.0351	ng/m³ Air		0.133			14.9	10	
Thallium	ND	0.00231	ng/m³ Air		ND				10	U
Vanadium	1.10	0.207	ng/m³ Air		1.14			3.41	10	
Zinc	ND	301	ng/m³ Air		ND				10	U
Dilution Check (B4J1506-SRL2)		**Source: 4101441-31**		Prepared: 10/15/24 Analyzed: 10/16/24						
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.629	0.0393	ng/m³ Air		0.622			1.11	10	
Barium	6.54	4.49	ng/m³ Air		6.55			0.132	10	
Beryllium	0.0423	0.0134	ng/m³ Air		0.0401			5.33	10	
Cadmium	ND	0.311	ng/m³ Air		ND				10	U
Chromium	ND	9.27	ng/m³ Air		ND				10	U
Cobalt	1.26	0.183	ng/m³ Air		1.22			3.35	10	
Copper	58.8	11.0	ng/m³ Air		56.9			3.31	10	
Lead	1.03	0.898	ng/m³ Air		1.06			2.86	10	
Manganese	38.5	7.93	ng/m³ Air		37.6			2.39	10	

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REPORTED: 10/22/24 13:34
SUBMITTED: 10/14/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J1506 - ICP-MS Extraction										
Dilution Check (B4J1506-SRL2) Continued				**Source: 4101441-31**		Prepared: 10/15/24 Analyzed: 10/16/24				
Molybdenum	1.70	1.51	ng/m³ Air		1.66			2.51	10	
Nickel	3.03	2.74	ng/m³ Air		2.94			3.04	10	
Selenium	0.293	0.0376	ng/m³ Air		0.292			0.531	10	
Thallium	0.00503	0.00247	ng/m³ Air		ND			88.3	10	
Vanadium	3.40	0.222	ng/m³ Air		3.40			0.0775	10	
Zinc	ND	322	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/22/2024 and Shanna Vasser 10/23/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/03/2024 – 10/09/2024
Report No: 4101441

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

1. A revised lab report and EDD were issued on 10/23/2024 to correct a typographical error in the sample ID for MFL-AM0**3**-100924-HM, which originally listed the sample ID as a duplicate MFL-AM0**2**-100924-HM.

Notes:

7. MFL-AM05-100924-HM and MFL-AM02-100924-HM were analyzed at a two-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

October 10 through October 16, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from October 10 through October 16, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 10 through October 16 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) for two hours on October 16, resulting in the collection of 22 hours of PM_{10} data.
- Because of equipment maintenance, the air monitoring period was interrupted at the following station on October 12 as described below:
    - Air monitoring was conducted at WW Pump Station #4 (AM-02), Lahaina Recreational Center (AM07), and Opukea Townhomes (AM-05) for only 23 hours

- On October 12, air monitoring was conducted at Lahaina Intermediate School (AM-03) for only 22 hours

The equipment fault on October 16 was the result of a disruption during two sampling intervals within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 22-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

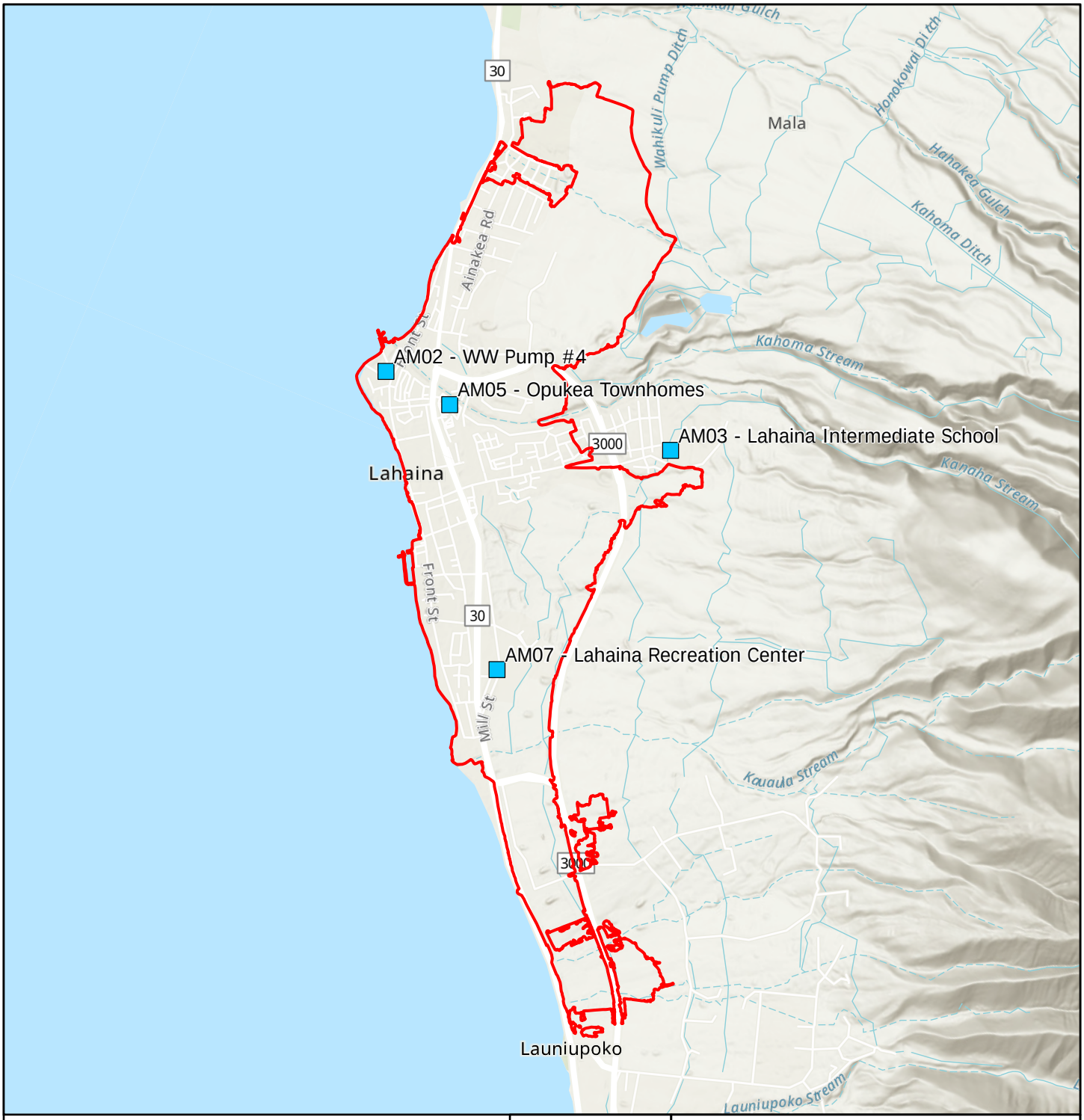
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 10 through October 16, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/10/2024	Opukea Townhomes (AM-05)	5.6
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	37
	Lahaina Recreation Center (AM-07)	4.8
10/11/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	28
	Lahaina Recreation Center (AM-07)	97
10/12/2024	Opukea Townhomes (AM-05)	8.8*
	WW Pump Station #4 (AM-02)	8.8*
	Lahaina Intermediate School (AM-03)	27**
	Lahaina Recreation Center (AM-07)	4.5*
10/13/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	5.4
	Lahaina Recreation Center (AM-07)	4.7
10/14/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	8.4
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Recreation Center (AM-07)	5.7
10/15/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	9.6
	Lahaina Recreation Center (AM-07)	9.3
10/16/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	9.1***
	Lahaina Intermediate School (AM-03)	105
	Lahaina Recreation Center (AM-07)	7.3

Notes:

$\mu g/m^3$ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

* Data provided were from a reduced (23-hr) TWA calculation because of equipment maintenance

** Data provided were from a reduced (22-hr) TWA calculation because of equipment maintenance

*** Data provided were from a reduced (22-hr) TWA calculation because of an equipment fault

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 10 through October 16, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.000120	0.000864	0.0151	0.0000574	ND	0.0126	0.00328	0.0615	0.00121	0.0712	0.00251	0.00893	0.000349	0.00000317	0.00932	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000204	0.000932	0.0183	0.0000654	0.000131	0.0107	0.00274	0.0349	0.00277	0.0663	0.00146	0.00714	0.000350	0.00000284	0.00830	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000490	0.000194	0.00408	0.0000443	ND	0.00416	0.000813	0.117	0.000325	0.0182	0.00298	0.00231	0.000208	0.00000116	0.00219	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.0000751	0.000487	0.00478	0.0000354	ND	0.00440	0.000961	0.0363	0.000530	0.0287	0.00132	0.00256	0.000209	0.00000136	0.00250	ND
10/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.000159	0.000713	0.00843	0.0000221	ND	0.00354	0.000854	0.0670	0.00798	0.0231	0.00295	0.00214	0.000246	0.00000138	0.00312	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000153	0.000683	0.00868	0.0000226	ND	0.00404	0.000790	0.0280	0.00728	0.0221	0.00146	0.00214	0.000247	0.00000117	0.00290	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000347	0.000158	0.00290	0.0000164	ND	0.00313	0.000408	0.108	0.000328	0.00908	0.00352	0.00186	0.000215	0.000000649	0.00158	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000654	0.000357	0.00330	0.0000205	ND	0.00364	0.000597	0.0557	0.000407	0.0179	0.00198	0.00185	0.000211	0.000000986	0.00213	ND
10/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000629	0.000233	0.00342	0.00000808	ND	0.00253	0.000308	0.0459	0.00136	0.00823	0.00300	0.00136	0.000175	0.000000658	0.00144	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000123	0.000159	0.00320	0.00000790	ND	0.00234	0.000277	0.0223	0.000453	0.00759	0.00143	0.00117	0.000180	0.000000616	0.00142	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000141	0.00248	0.0000180	ND	0.00265	0.000359	0.0448	0.000315	0.00875	0.00270	0.00145	0.000185	0.000000682	0.00144	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000682	0.000204	0.00280	0.0000143	ND	0.00309	0.000362	0.0293	0.000316	0.0112	0.00157	0.00150	0.000193	0.000000735	0.00144	ND
10/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000639	0.000268	0.00335	0.00000974	ND	0.00251	0.000317	0.0520	0.000784	0.00975	0.00355	0.00113	0.000217	0.00000138	0.00146	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000752	0.000203	0.00348	0.00000765	0.0000657	0.00209	0.000250	0.0203	0.000522	0.00753	0.00163	0.000904	0.000195	0.00000121	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000141	0.00204	0.0000131	ND	0.00235	0.000304	0.0407	0.000304	0.00758	0.00243	0.00103	0.000216	0.00000121	0.00122	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000106	0.000264	0.00320	0.0000151	ND	0.00325	0.000437	0.0196	0.000406	0.0136	0.00155	0.00139	0.000216	0.00000149	0.00158	ND
10/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000716	0.000319	0.00511	0.0000162	ND	0.00435	0.000686	0.0568	0.000676	0.0177	0.00399	0.00203	0.000193	0.00000174	0.00225	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000916	0.000323	0.00509	0.0000162	ND	0.00357	0.000562	0.0224	0.00106	0.0153	0.00125	0.00165	0.000174	0.00000152	0.00200	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000388	0.000158	0.00295	0.0000133	ND	0.00248	0.000346	0.0499	0.000336	0.00864	0.00329	0.00117	0.000155	0.00000115	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000762	0.000480	0.00466	0.0000268	ND	0.00465	0.000897	0.0241	0.000804	0.0268	0.00173	0.00211	0.000224	0.00000187	0.00268	ND
10/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000994	0.000392	0.00540	0.0000156	ND	0.00357	0.000580	0.0464	0.00109	0.0160	0.00315	0.00157	0.000360	0.00000228	0.00198	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000103	0.000303	0.00496	0.0000140	ND	0.00281	0.000477	0.0217	0.000838	0.0137	0.00141	0.00139	0.000312	0.00000232	0.00182	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000620	0.000290	0.00393	0.0000249	ND	0.00326	0.000523	0.0475	0.000522	0.0135	0.00387	0.00188	0.000350	0.00000234	0.00179	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000937	0.000701	0.00536	0.0000269	ND	0.00409	0.000737	0.0235	0.000856	0.0240	0.00167	0.00197	0.000388	0.00000281	0.00238	ND
10/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.000145	0.000625	0.00927	0.0000279	ND	0.00579	0.00121	0.0586	0.00135	0.0286	0.00376	0.00331	0.000321	0.00000315	0.00373	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000849	0.000379	0.00517	0.0000178	ND	0.00421	0.000740	0.0221	0.000750	0.0176	0.00139	0.00197	0.000254	0.00000247	0.00225	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000719	0.000311	0.00481	0.0000344	ND	0.00434	0.000833	0.0502	0.000615	0.0201	0.00277	0.00206	0.000279	0.00000253	0.00236	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000103	0.000647	0.00588	0.0000375	ND	0.00538	0.00116	0.0260	0.000703	0.0332	0.00184	0.00268	0.000326	0.00000325	0.00305	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000490	0.00646	0.0000290	NA	0.00472	0.000970	0.0527	0.00158	0.0251	0.00272	0.00262	0.000270	0.00000210	0.00296	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 10, through October 16, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/10/2024	AM-02	WW Pump Station #4	0.9	SSE	81	68	762.8
10/10/2024	AM-03	Lahaina Intermediate School	1.0	SE	80	66	753.4
10/10/2024	AM-05	Opukea Townhomes	1.1	SE	83	65	762.2
10/10/2024	AM-07	Lahaina Recreational Center	1.3	SE	80	69	762.1
10/11/2024	AM-02	WW Pump Station #4	1.0	SSE	81	70	763.0
10/11/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	68	753.6
10/11/2024	AM-05	Opukea Townhomes	1.2	SE	83	66	762.4
10/11/2024	AM-07	Lahaina Recreational Center	1.4	SE	79	73	762.3
10/12/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	762.6
10/12/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	63	753.2
10/12/2024	AM-05	Opukea Townhomes	1.2	SE	81	62	762.0
10/12/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	66	762.0
10/13/2024	AM-02	WW Pump Station #4	1.0	SSE	80	64	762.4
10/13/2024	AM-03	Lahaina Intermediate School	1.0	SE	79	62	753.1
10/13/2024	AM-05	Opukea Townhomes	1.2	SE	81	60	761.9
10/13/2024	AM-07	Lahaina Recreational Center	1.5	SSE	81	65	761.8
10/14/2024	AM-02	WW Pump Station #4	0.9	SSE	82	69	762.5
10/14/2024	AM-03	Lahaina Intermediate School	1.2	SE	82	65	753.2
10/14/2024	AM-05	Opukea Townhomes	1.2	SE	82	65	762.0
10/14/2024	AM-07	Lahaina Recreational Center	1.5	SSE	83	69	761.9
10/15/2024	AM-02	WW Pump Station #4	1.0	S	82	64	763.5
10/15/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	61	754.2
10/15/2024	AM-05	Opukea Townhomes	1.2	SE	82	60	763.0
10/15/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	65	762.8
10/16/2024	AM-02	WW Pump Station #4	1.0	S	82	53	762.6
10/16/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	50	753.3
10/16/2024	AM-05	Opukea Townhomes	1.2	SE	82	49	762.2
10/16/2024	AM-07	Lahaina Recreational Center	1.6	SSE	83	53	762.0

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101024-AB**		**Sample Description:**	**DL267249**
EMSL Sample Number:	042421410-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0001 **Customer Sample:** MFL-AM05-101024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H5	None Detected									
B1	J6	None Detected									
B2	I7	None Detected									
B2	G8	None Detected									
B3	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101024-AB**		**Sample Description:**	**DL267273**
EMSL Sample Number:	042421410-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0002 **Customer Sample:** MFL-AM02-101024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	C4	None Detected									
B5	E5	None Detected									
B6	A3	None Detected									
B6	D1	None Detected									
B7	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101024-AB**		**Sample Description:**	**DL267235**
EMSL Sample Number:	042421410-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7074.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0003 **Customer Sample:** MFL-AM03-101024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	B6	None Detected									
C1	D7	None Detected									
C2	E3	None Detected									
C2	F2	None Detected									
C3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101024-AB**	**Sample Description:**	**DL267244**
EMSL Sample Number:	042421410-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6992.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0004 **Customer Sample:** MFL-AM07-101024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J7	None Detected									
C5	I6	None Detected									
C6	B3	None Detected									
C6	D4	None Detected									
C7	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101024-AB**	**Sample Description:**	**DL267233**
EMSL Sample Number:	042421410-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0005 **Customer Sample:** MFL-FB01-101024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A4	None Detected									
D1	A6	None Detected									
D1	B5	None Detected									
D1	B7	None Detected									
D2	C8	None Detected									
D2	C10	None Detected									
D2	E9	None Detected									
D3	J3	None Detected									
D3	J1	None Detected									
D3	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101124-AB**		**Sample Description:**	**DL267609**
EMSL Sample Number:	042421410-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0006 **Customer Sample:** MFL-AM05-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I7	None Detected									
D5	H6	None Detected									
D6	J8	None Detected									
D6	G9	None Detected									
D7	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
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Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101124-AB** **Sample Description: DL267285**

EMSL Sample Number:	042421410-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6910.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0007 **Customer Sample:** MFL-AM02-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C7	None Detected									
E1	D6	None Detected									
E2	G3	None Detected									
E2	H2	None Detected									
E3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101124-AB**		**Sample Description:**	**DL267259**
EMSL Sample Number:	042421410-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0008 **Customer Sample:** MFL-AM03-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B6	None Detected									
E5	C4	None Detected									
E6	D3	None Detected									
E6	E5	None Detected									
E7	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101124-AB**	**Sample Description:**	**DL267237**
EMSL Sample Number:	042421410-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7209.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0009 **Customer Sample:** MFL-AM07-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J9	None Detected									
F1	I8	None Detected									
F2	H10	None Detected									
F2	G7	None Detected									
F3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101124-AB**	**Sample Description:**	**DL267240**
EMSL Sample Number:	042421410-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0010 **Customer Sample:** MFL-FB01-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J8	None Detected									
F5	J6	None Detected									
F5	I5	None Detected									
F5	I3	None Detected									
F6	A7	None Detected									
F6	A9	None Detected									
F6	B10	None Detected									
F7	D4	None Detected									
F7	D6	None Detected									
F7	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-101224-AB** **Sample Description: DL267241**

EMSL Sample Number:	042421410-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0011 **Customer Sample:** MFL-AM05-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J5	None Detected									
G1	H4	None Detected									
G2	A7	None Detected									
G2	B8	None Detected									
G3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101224-AB** **Sample Description: DL267264**

EMSL Sample Number:	042421410-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6833.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0012 **Customer Sample:** MFL-AM02-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I7	None Detected									
G5	H5	None Detected									
G6	B6	None Detected									
G6	C4	None Detected									
G7	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101224-AB**		**Sample Description:**	**DL267266**
EMSL Sample Number:	042421410-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0013 **Customer Sample:** MFL-AM03-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J6	None Detected									
H1	I7	None Detected									
H2	C5	None Detected									
H2	A4	None Detected									
H3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
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Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101224-AB**		**Sample Description:**	**DL267270**
EMSL Sample Number:	042421410-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0014 **Customer Sample:** MFL-AM07-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	B8	None Detected									
H6	J4	None Detected									
H6	I3	None Detected									
H7	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101224-AB**		**Sample Description:**	**DL267248**
EMSL Sample Number:	042421410-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0015 **Customer Sample:** MFL-FB01-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J7	None Detected									
I1	J5	None Detected									
I1	H6	None Detected									
I1	H4	None Detected									
I2	G3	None Detected									
I2	G1	None Detected									
I2	F2	None Detected									
I3	D6	None Detected									
I3	D4	None Detected									
I3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101324-AB**	**Sample Description:**	**DL267267**
EMSL Sample Number:	042421410-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7077.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0016 **Customer Sample:** MFL-AM05-101324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B3	None Detected									
I5	C2	None Detected									
I6	J8	None Detected									
I6	H9	None Detected									
I7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101324-AB**		**Sample Description:**	**DL267239**
EMSL Sample Number:	042421410-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0017 **Customer Sample:** MFL-AM02-101324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	C8	None Detected									
J1	B7	None Detected									
J2	B5	None Detected									
J2	C4	None Detected									
J3	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
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Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101324-AB**		**Sample Description:**	**DL267274**
EMSL Sample Number:	042421410-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0018 **Customer Sample:** MFL-AM03-101324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A4	None Detected									
J5	C6	None Detected									
J6	B7	None Detected									
J6	D9	None Detected									
J7	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101324-AB**		**Sample Description:**	**DL267257**
EMSL Sample Number:	042421410-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7293.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0019 **Customer Sample:** MFL-AM07-101324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J5	None Detected									
K1	H4	None Detected									
K2	A7	None Detected									
K2	B6	None Detected									
K3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Phone:	(703) 489-2674
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Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101324-AB** **Sample Description:** **DL267271**

EMSL Sample Number:	042421410-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0020 **Customer Sample:** MFL-FB01-101324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	B4	None Detected									
K5	B6	None Detected									
K5	D7	None Detected									
K5	D9	None Detected									
K6	H5	None Detected									
K6	H7	None Detected									
K6	J8	None Detected									
K7	I5	None Detected									
K7	I3	None Detected									
K7	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
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Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042421410-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421410
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B3	None Detected									
A1	B5	None Detected									
A1	C8	None Detected									
A1	C10	None Detected									
A2	J6	None Detected									
A2	J4	None Detected									
A2	I5	None Detected									
A3	D7	None Detected									
A3	D9	None Detected									
A3	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042421410

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421410

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO
Country: USA
Phone: (703) 989-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip:
Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shanna Epsten
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-101024-AB	DL267249	7,159.421	10/10/24 1058
MFL-AM02-101024-AB	DL267273	7,268.371	10/10/24 1115
MFL-AM03-101024-AB	DL267235	7,074.270	10/10/24 1300
MFL-AM01-101024-AB	DL267244	6,991.963	10/10/24 1325
MFL-FB01-101024-AB	DL267233	0	10/10/24 1200
MFL-AM05-101124-AB	DL267609	7,197.605	10/11/24 1056
MFL-AM02-101124-AB	DL267285	6,910.934	10/11/24 1144
MFL-AM03-101124-AB	DL267259	7,155.495	10/11/24 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

RECEIVED OCT 16 2024

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 10/14/24 1100
Received by: FF Date/Time: 10/16/24 0935

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042421410

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421410

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-101124-AB	DL267237	7,209.472	10/11/24 1320
MFL-FB01-101124-AB	DL267240	0	10/11/24 1200
MFL-AM05-101224-AB	DL267241	7,166.016	10/12/24 1101
MFL-AM02-101224-AB	DL267264	6,833.888	10/12/24 1118
MFL-AM03-101224-AB	DL267266	7,232.172	10/12/24 1257
MFL-AM07-101224-AB	DL267270	7,207.130	10/12/24 1321
MFL-FB01-101224-AB	DL267248	0	10/12/24 1200
MFL-AM05-101324-AB	DL267267	7,077.730	10/13/24 1058
MFL-AM02-101324-AB	DL267239	7,152.196	10/13/24 1115
MFL-AM03-101324-AB	DL267274	7,200.893	10/13/24 1301
MFL-AM07-101324-AB	DL267257	7,293.085	10/13/24 1321
MFL-FB01-101324-AB	DL267271	0	10/13/24 1200

RECEIVED OCT 16 2024

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/14/24 1100	Received by:	Date/Time 10/16/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/23/2024 and Shanna Vasser 10/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/10/2024 – 10/13/2024
Report No: 42421410

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/22/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101424-AB**		**Sample Description:**	**DL267245**
EMSL Sample Number:	042421710-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0001 **Customer Sample:** MFL-AM05-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	G7	None Detected									
C6	I10	None Detected									
C6	H7	None Detected									
C7	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101424-AB** **Sample Description: DL267251**

EMSL Sample Number:	042421710-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0002 **Customer Sample:** MFL-AM02-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D3	H10	None Detected									
D3	F8	None Detected									
D3	F6	None Detected									
D4	A1	None Detected									
D4	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-101424-AB** **Sample Description: DL267280**

EMSL Sample Number:	042421710-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0003 **Customer Sample:** MFL-AM03-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B4	None Detected									
D5	C6	None Detected									
D6	A7	None Detected									
D6	E5	None Detected									
D7	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-101424-AB** **Sample Description: DL267262**

EMSL Sample Number:	042421710-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0004 **Customer Sample:** MFL-AM07-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	I6	None Detected									
E2	B4	None Detected									
E2	C5	None Detected									
E3	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101424-AB** **Sample Description:** **DL267253**

EMSL Sample Number:	042421710-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0005 **Customer Sample:** MFL-FB01-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H9	None Detected									
E5	H7	None Detected									
E5	G10	None Detected									
E5	G8	None Detected									
E6	A3	None Detected									
E6	A5	None Detected									
E6	B4	None Detected									
E7	J8	None Detected									
E7	J6	None Detected									
E7	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101524-AB**		**Sample Description:**	**DL267268**
EMSL Sample Number:	042421710-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0006 **Customer Sample:** MFL-AM05-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C1	None Detected									
F1	D3	None Detected									
F2	A5	None Detected									
F2	B6	None Detected									
F3	J10	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101524-AB**		**Sample Description:**	**DL267243**
EMSL Sample Number:	042421710-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6805.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0007 **Customer Sample:** MFL-AM02-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	C6	None Detected									
F5	D7	None Detected									
F6	A9	None Detected									
F6	B8	None Detected									
F7	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101524-AB**		**Sample Description:**	**DL267252**
EMSL Sample Number:	042421710-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7118.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S.Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0008 **Customer Sample:** MFL-AM03-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	E3	None Detected									
G1	F4	None Detected									
G2	B7	None Detected									
G2	D8	None Detected									
G3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-101524-AB** **Sample Description: DL267258**

EMSL Sample Number:	042421710-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0009 **Customer Sample:** MFL-AM07-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A8	None Detected									
G5	C10	None Detected									
G6	D6	None Detected									
G6	E7	None Detected									
G7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101524-AB** **Sample Description:** **DL267690**

EMSL Sample Number:	042421710-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0010 **Customer Sample:** MFL-FB01-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J10	None Detected									
H1	H1	None Detected									
H2	A2	None Detected									
H2	B9	None Detected									
H3	I10	None Detected									
H3	I8	None Detected									
H3	G9	None Detected									
H4	A3	None Detected									
H4	A5	None Detected									
H4	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101624-AB**		**Sample Description:**	**DL267246**
EMSL Sample Number:	042421710-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0011 **Customer Sample:** MFL-AM05-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	C4	None Detected									
H5	D6	None Detected									
H6	B3	None Detected									
H6	F2	None Detected									
H7	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
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Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101624-AB**	**Sample Description:**	**DL267278**
EMSL Sample Number:	042421710-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0012 **Customer Sample:** MFL-AM02-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J4	None Detected									
I1	E2	None Detected									
I2	C6	None Detected									
I2	G5	None Detected									
I3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101624-AB**		**Sample Description:**	**DL267467**
EMSL Sample Number:	042421710-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0013 **Customer Sample:** MFL-AM03-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B8	None Detected									
I5	C9	None Detected									
I6	A5	None Detected									
I6	H4	None Detected									
I7	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101624-AB**		**Sample Description:**	**DL267689**
EMSL Sample Number:	042421710-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0014 **Customer Sample:** MFL-AM07-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A5	None Detected									
J1	B6	None Detected									
J2	C4	None Detected									
J2	E3	None Detected									
J3	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101624-AB** **Sample Description: DL267234**

EMSL Sample Number:	042421710-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0015 **Customer Sample:** MFL-FB01-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I10	None Detected									
J5	I8	None Detected									
J5	H9	None Detected									
J5	H7	None Detected									
J6	J7	None Detected									
J6	J5	None Detected									
J6	I8	None Detected									
J7	B2	None Detected									
J7	B4	None Detected									
J7	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/22/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042421710-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042421710
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	B4	None Detected									
C1	B6	None Detected									
C1	D5	None Detected									
C1	D7	None Detected									
C2	J9	None Detected									
C2	J7	None Detected									
C2	I8	None Detected									
C3	H7	None Detected									
C3	H5	None Detected									
C3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042421710

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042421710

RECEIVED EMSL CINNAMINSON NJ 2024 OCT 21 A 9:25

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1900	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaina A.L. Epstein	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-101424-AB	DL267245	7,238.314	10/14/24 1059
MFL-AM02-101424-AB	DL267251	7,057.366	10/14/24 1114
MFL-AM03-101424-AB	DL267280	7,082.240	10/14/24 1258
MFL-AM07-101424-AB	DL267262	7,196.230	10/14/24 1317
MFL-FB01-101424-AB	DL267253	0	10/14/24 1200
MFL-AM05-101524-AB	DL267268	7,158.981	10/15/24 1055
MFL-AM02-101524-AB	DL267243	6,805.559	10/15/24 1109
MFL-AM03-101524-AB	DL267252	7,118.397	10/15/24 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

150%

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 10/17/24 1100	Received by: FX
Relinquished by:		Date/Time:	Received by:
Date/Time			10/21/24 900
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042421710

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421710

RECEIVED
EMSL
CINNAMINSON, N.J.

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

2024 OCT 21 A 9:25

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-101524-AB	DL2672258	7,204.694	10/15/24 1314
MFL-FB01-101524-AB	DL267690	0	10/15/24 1200
MFL-AM05-101624-AB	DL267246	7,173.991	10/16/24 1100
MFL-AM02-101624-AB	DL267278	7,199.020	10/16/24 1113
MFL-AM03-101624-AB	DL267467	7,199.704	10/16/24 1258
MFL-AM07-101624-AB	DL267689	7,215.408	10/16/24 1318
MFL-FB01-101624-AB	DL267234	0	10/16/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shana Epstein	Date/Time: 10/17/24 1100	Received by: Chelsea FX	Date/Time 10/21/24 900
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/28/2024 and Shanna Vasser 10/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/14/2024 – 10/16/2024
Report No:

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 29, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 10/21/24 12:17.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-101024-HM	4102129-01	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM02-101024-HM	4102129-02	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM03-101024-HM	4102129-03	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM07-101024-HM	4102129-04	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM05-101124-HM	4102129-05	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM02-101124-HM	4102129-06	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM03-101124-HM	4102129-07	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM07-101124-HM	4102129-08	Air	10/11/24 23:59	10/21/24 12:17
MFL-FB01-101124-HM	4102129-09	Air	10/11/24 00:00	10/21/24 12:17
MFL-LB01-101124-HM	4102129-10	Air	10/11/24 00:00	10/21/24 12:17
MFL-AM05-101224-HM	4102129-11	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM02-101224-HM	4102129-12	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM03-101224-HM	4102129-13	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM07-101224-HM	4102129-14	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM05-101324-HM	4102129-15	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM02-101324-HM	4102129-16	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM03-101324-HM	4102129-17	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM07-101324-HM	4102129-18	Air	10/13/24 23:59	10/21/24 12:17
MFL-FB01-101324-HM	4102129-19	Air	10/13/24 00:00	10/21/24 12:17
MFL-AM05-101424-HM	4102129-20	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM02-101424-HM	4102129-21	Air	10/14/24 23:59	10/21/24 12:17

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-101424-HM	4102129-22	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM07-101424-HM	4102129-23	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM05-101524-HM	4102129-24	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM02-101524-HM	4102129-25	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM03-101524-HM	4102129-26	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM07-101524-HM	4102129-27	Air	10/15/24 23:59	10/21/24 12:17
MFL-FB01-101524-HM	4102129-28	Air	10/15/24 00:00	10/21/24 12:17
MFL-AM05-101624-HM	4102129-29	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM02-101624-HM	4102129-30	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM03-101624-HM	4102129-31	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM07-101624-HM	4102129-32	Air	10/16/24 23:59	10/21/24 12:17

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101024-HM
Matrix: Air
Lab ID: 4102129-01
Sample Volume: 1947.861 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/22/24 22:00

Comments: Q8522499 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.864**		**0.00783**
Barium	**7440-39-3**	**15.1**	A-01, PS-01	**0.894**
Beryllium	**7440-41-7**	**0.0574**		**0.00267**
Cadmium	7440-43-9	0.0459	U	0.0619
Chromium	**7440-47-3**	**12.6**	A-01, PS-01	**1.85**
Cobalt	**7440-48-4**	**3.28**	A-01, PS-01, QM-07	**0.0364**
Copper	**7440-50-8**	**61.5**	QM-07	**2.20**
Lead	**7439-92-1**	**1.21**		**0.179**
Manganese	**7439-96-5**	**71.2**	A-01, PS-01, QM-4X	**1.58**
Molybdenum	**7439-98-7**	**2.51**		**0.300**
Nickel	**7440-02-0**	**8.93**	QM-07	**0.545**
Selenium	**7782-49-2**	**0.349**		**0.00748**
Thallium	**7440-28-0**	**0.00317**		**4.92E-4**
Vanadium	**7440-62-2**	**9.32**	A-01, E, PS-01, QM-4X	**0.0442**
Zinc	7440-66-6	25.7	U	64.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101024-HM
Matrix: Air
Lab ID: 4102129-02
Sample Volume: 2144.532 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 00:27

Comments: Q8522498 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.204**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.932**		**0.00711**
Barium	**7440-39-3**	**18.3**		**0.812**
Beryllium	**7440-41-7**	**0.0654**		**0.00243**
Cadmium	**7440-43-9**	**0.131**		**0.0562**
Chromium	**7440-47-3**	**10.7**		**1.68**
Cobalt	**7440-48-4**	**2.74**		**0.0331**
Copper	**7440-50-8**	**34.9**		**2.00**
Lead	**7439-92-1**	**2.77**		**0.162**
Manganese	**7439-96-5**	**66.3**		**1.43**
Molybdenum	**7439-98-7**	**1.46**		**0.272**
Nickel	**7440-02-0**	**7.14**		**0.495**
Selenium	**7782-49-2**	**0.350**		**0.00680**
Thallium	**7440-28-0**	**0.00284**		**4.47E-4**
Vanadium	**7440-62-2**	**8.30**		**0.0401**
Zinc	7440-66-6	39.8	U	58.3

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101024-HM
Matrix: Air
Lab ID: 4102129-03
Sample Volume: 1976.801 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 00:46

Comments: Q8522497 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.194**		**0.00771**
Barium	**7440-39-3**	**4.08**		**0.881**
Beryllium	**7440-41-7**	**0.0443**		**0.00263**
Cadmium	7440-43-9	0.0129	U	0.0610
Chromium	**7440-47-3**	**4.16**		**1.82**
Cobalt	**7440-48-4**	**0.813**		**0.0359**
Copper	**7440-50-8**	**117**		**2.16**
Lead	**7439-92-1**	**0.325**		**0.176**
Manganese	**7439-96-5**	**18.2**		**1.56**
Molybdenum	**7439-98-7**	**2.98**		**0.295**
Nickel	**7440-02-0**	**2.31**		**0.537**
Selenium	**7782-49-2**	**0.208**		**0.00737**
Thallium	**7440-28-0**	**0.00116**		**4.85E-4**
Vanadium	**7440-62-2**	**2.19**		**0.0435**
Zinc	7440-66-6	10.3	U	63.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101024-HM
Matrix: Air
Lab ID: 4102129-04
Sample Volume: 1923.321 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:00

Comments: Q8522492 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0751**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.487**		**0.00793**
Barium	**7440-39-3**	**4.78**		**0.905**
Beryllium	**7440-41-7**	**0.0354**		**0.00271**
Cadmium	7440-43-9	0.0318	U	0.0627
Chromium	**7440-47-3**	**4.40**		**1.87**
Cobalt	**7440-48-4**	**0.961**		**0.0369**
Copper	**7440-50-8**	**36.3**		**2.22**
Lead	**7439-92-1**	**0.530**		**0.181**
Manganese	**7439-96-5**	**28.7**		**1.60**
Molybdenum	**7439-98-7**	**1.32**		**0.304**
Nickel	**7440-02-0**	**2.56**		**0.552**
Selenium	**7782-49-2**	**0.209**		**0.00758**
Thallium	**7440-28-0**	**0.00136**		**4.98E-4**
Vanadium	**7440-62-2**	**2.50**		**0.0447**
Zinc	7440-66-6	12.6	U	65.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101124-HM
Matrix: Air
Lab ID: 4102129-05
Sample Volume: 1933.178 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:15

Comments: Q8522491 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.713**		**0.00789**
Barium	**7440-39-3**	**8.43**		**0.901**
Beryllium	**7440-41-7**	**0.0221**		**0.00269**
Cadmium	7440-43-9	0.0337	U	0.0624
Chromium	**7440-47-3**	**3.54**		**1.86**
Cobalt	**7440-48-4**	**0.854**		**0.0367**
Copper	**7440-50-8**	**67.0**		**2.21**
Lead	**7439-92-1**	**7.98**		**0.180**
Manganese	**7439-96-5**	**23.1**		**1.59**
Molybdenum	**7439-98-7**	**2.95**		**0.302**
Nickel	**7440-02-0**	**2.14**		**0.549**
Selenium	**7782-49-2**	**0.246**		**0.00754**
Thallium	**7440-28-0**	**0.00138**		**4.96E-4**
Vanadium	**7440-62-2**	**3.12**		**0.0445**
Zinc	7440-66-6	27.4	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101124-HM
Matrix: Air
Lab ID: 4102129-06
Sample Volume: 2184.927 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:34

Comments: Q9537781 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.683**		**0.00698**
Barium	**7440-39-3**	**8.68**		**0.797**
Beryllium	**7440-41-7**	**0.0226**		**0.00238**
Cadmium	7440-43-9	0.0287	U	0.0552
Chromium	**7440-47-3**	**4.04**		**1.65**
Cobalt	**7440-48-4**	**0.790**		**0.0325**
Copper	**7440-50-8**	**28.0**		**1.96**
Lead	**7439-92-1**	**7.28**		**0.159**
Manganese	**7439-96-5**	**22.1**		**1.41**
Molybdenum	**7439-98-7**	**1.46**		**0.267**
Nickel	**7440-02-0**	**2.14**		**0.486**
Selenium	**7782-49-2**	**0.247**		**0.00667**
Thallium	**7440-28-0**	**0.00117**		**4.39E-4**
Vanadium	**7440-62-2**	**2.90**		**0.0394**
Zinc	7440-66-6	29.5	U	57.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101124-HM
Matrix: Air
Lab ID: 4102129-07
Sample Volume: 2005.505 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:54

Comments: Q9537785 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0347**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.158**		**0.00760**
Barium	**7440-39-3**	**2.90**		**0.868**
Beryllium	**7440-41-7**	**0.0164**		**0.00260**
Cadmium	7440-43-9	0.0149	U	0.0601
Chromium	**7440-47-3**	**3.13**		**1.79**
Cobalt	**7440-48-4**	**0.408**		**0.0354**
Copper	**7440-50-8**	**108**		**2.13**
Lead	**7439-92-1**	**0.328**		**0.174**
Manganese	**7439-96-5**	**9.08**		**1.53**
Molybdenum	**7439-98-7**	**3.52**		**0.291**
Nickel	**7440-02-0**	**1.86**		**0.529**
Selenium	**7782-49-2**	**0.215**		**0.00727**
Thallium	**7440-28-0**	**6.49E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0429**
Zinc	7440-66-6	16.6	U	62.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101124-HM
Matrix: Air
Lab ID: 4102129-08
Sample Volume: 1961.201 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:08

Comments: Q9537786 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0654**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.357**		**0.00777**
Barium	**7440-39-3**	**3.30**		**0.888**
Beryllium	**7440-41-7**	**0.0205**		**0.00265**
Cadmium	7440-43-9	0.0151	U	0.0615
Chromium	**7440-47-3**	**3.64**		**1.83**
Cobalt	**7440-48-4**	**0.597**		**0.0362**
Copper	**7440-50-8**	**55.7**		**2.18**
Lead	**7439-92-1**	**0.407**		**0.178**
Manganese	**7439-96-5**	**17.9**		**1.57**
Molybdenum	**7439-98-7**	**1.98**		**0.298**
Nickel	**7440-02-0**	**1.85**		**0.541**
Selenium	**7782-49-2**	**0.211**		**0.00743**
Thallium	**7440-28-0**	**9.86E-4**		**4.89E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0439**
Zinc	7440-66-6	15.1	U	63.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101124-HM **Lab ID:** 4102129-09 **Sampled:** 10/11/24 00:00
Matrix: Air **Sample Volume:** 1933.178 m³ **Received:** 10/21/24 12:17
Filter ID: **Analysis Date:** 10/23/24 02:22

Comments: Q9537793 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00639	SL, U	0.0325
Arsenic	7440-38-2	0.00614	U	0.00789
Barium	7440-39-3	0.549	U	0.901
Beryllium	7440-41-7	8.68E-4	U	0.00269
Cadmium	7440-43-9	0.00433	U	0.0624
Chromium	7440-47-3	1.50	U	1.86
Cobalt	7440-48-4	0.0324	U	0.0367
Copper	7440-50-8	0.607	U	2.21
Lead	7439-92-1	0.0523	U	0.180
Manganese	7439-96-5	0.275	U	1.59
Molybdenum	7439-98-7	0.278	U	0.302
Nickel	7440-02-0	0.330	U	0.549
Selenium	7782-49-2	0.00373	U	0.00754
Thallium	7440-28-0	6.06E-5	U	4.96E-4
Vanadium	**7440-62-2**	**0.0465**	FB-01	**0.0445**
Zinc	7440-66-6	5.29	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-101124-HM
Matrix: Air
Lab ID: 4102129-10
Sample Volume: 1933.178 m³
Filter ID:
Sampled: 10/11/24 00:00
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:36

Comments: Q9537789 - Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00613	SL, U	0.0325
Arsenic	7440-38-2	0.00461	U	0.00789
Barium	7440-39-3	0.571	U	0.901
Beryllium	7440-41-7	5.24E-4	U	0.00269
Cadmium	7440-43-9	0.00303	U	0.0624
Chromium	7440-47-3	1.56	U	1.86
Cobalt	7440-48-4	0.0248	U	0.0367
Copper	7440-50-8	0.263	U	2.21
Lead	7439-92-1	0.0512	U	0.180
Manganese	7439-96-5	0.187	U	1.59
Molybdenum	7439-98-7	0.255	U	0.302
Nickel	7440-02-0	0.289	U	0.549
Selenium	7782-49-2	0.00344	U	0.00754
Thallium	7440-28-0	4.46E-5	U	4.96E-4
Vanadium	7440-62-2	0.0393	U	0.0445
Zinc	7440-66-6	4.91	U	64.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101224-HM
Matrix: Air
Lab ID: 4102129-11
Sample Volume: 1981.074 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:50

Comments: Q9537788 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0629**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.233**		**0.00770**
Barium	**7440-39-3**	**3.42**		**0.879**
Beryllium	**7440-41-7**	**0.00808**		**0.00263**
Cadmium	7440-43-9	0.0154	U	0.0609
Chromium	**7440-47-3**	**2.53**		**1.82**
Cobalt	**7440-48-4**	**0.308**		**0.0358**
Copper	**7440-50-8**	**45.9**		**2.16**
Lead	**7439-92-1**	**1.36**		**0.176**
Manganese	**7439-96-5**	**8.23**		**1.55**
Molybdenum	**7439-98-7**	**3.00**		**0.295**
Nickel	**7440-02-0**	**1.36**		**0.535**
Selenium	**7782-49-2**	**0.175**		**0.00736**
Thallium	**7440-28-0**	**6.58E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0434**
Zinc	7440-66-6	17.3	U	63.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101224-HM
Matrix: Air
Lab ID: 4102129-12
Sample Volume: 2046.396 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 03:39

Comments: Q9537790 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.123**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.159**		**0.00745**
Barium	**7440-39-3**	**3.20**		**0.851**
Beryllium	**7440-41-7**	**0.00790**		**0.00254**
Cadmium	7440-43-9	0.0107	U	0.0589
Chromium	**7440-47-3**	**2.34**		**1.76**
Cobalt	**7440-48-4**	**0.277**		**0.0347**
Copper	**7440-50-8**	**22.3**		**2.09**
Lead	**7439-92-1**	**0.453**		**0.170**
Manganese	**7439-96-5**	**7.59**		**1.50**
Molybdenum	**7439-98-7**	**1.43**		**0.285**
Nickel	**7440-02-0**	**1.17**		**0.518**
Selenium	**7782-49-2**	**0.180**		**0.00712**
Thallium	**7440-28-0**	**6.16E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0421**
Zinc	7440-66-6	16.1	U	61.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101224-HM
Matrix: Air
Lab ID: 4102129-13
Sample Volume: 2018.929 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 03:53

Comments: Q9537792 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0273	SL, U	0.0311
Arsenic	**7440-38-2**	**0.141**		**0.00755**
Barium	**7440-39-3**	**2.48**		**0.862**
Beryllium	**7440-41-7**	**0.0180**		**0.00258**
Cadmium	7440-43-9	0.00973	U	0.0597
Chromium	**7440-47-3**	**2.65**		**1.78**
Cobalt	**7440-48-4**	**0.359**		**0.0351**
Copper	**7440-50-8**	**44.8**		**2.12**
Lead	**7439-92-1**	**0.315**		**0.172**
Manganese	**7439-96-5**	**8.75**		**1.52**
Molybdenum	**7439-98-7**	**2.70**		**0.289**
Nickel	**7440-02-0**	**1.45**		**0.525**
Selenium	**7782-49-2**	**0.185**		**0.00722**
Thallium	**7440-28-0**	**6.82E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0426**
Zinc	7440-66-6	18.4	U	61.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101224-HM
Matrix: Air
Lab ID: 4102129-14
Sample Volume: 1730.454 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:07

Comments: Q9537794 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0682**	SL	**0.0363**
Arsenic	**7440-38-2**	**0.204**		**0.00881**
Barium	**7440-39-3**	**2.80**		**1.01**
Beryllium	**7440-41-7**	**0.0143**		**0.00301**
Cadmium	7440-43-9	0.0272	U	0.0697
Chromium	**7440-47-3**	**3.09**		**2.08**
Cobalt	**7440-48-4**	**0.362**		**0.0410**
Copper	**7440-50-8**	**29.3**		**2.47**
Lead	**7439-92-1**	**0.316**		**0.201**
Manganese	**7439-96-5**	**11.2**		**1.78**
Molybdenum	**7439-98-7**	**1.57**		**0.338**
Nickel	**7440-02-0**	**1.50**		**0.613**
Selenium	**7782-49-2**	**0.193**		**0.00842**
Thallium	**7440-28-0**	**7.35E-4**		**5.54E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0497**
Zinc	7440-66-6	12.2	U	72.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101324-HM
Matrix: Air
Lab ID: 4102129-15
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:35

Comments: Q9537795 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0639**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.268**		**0.00824**
Barium	**7440-39-3**	**3.35**		**0.941**
Beryllium	**7440-41-7**	**0.00974**		**0.00281**
Cadmium	7440-43-9	0.0184	U	0.0651
Chromium	**7440-47-3**	**2.51**		**1.94**
Cobalt	**7440-48-4**	**0.317**		**0.0383**
Copper	**7440-50-8**	**52.0**		**2.31**
Lead	**7439-92-1**	**0.784**		**0.188**
Manganese	**7439-96-5**	**9.75**		**1.66**
Molybdenum	**7439-98-7**	**3.55**		**0.316**
Nickel	**7440-02-0**	**1.13**		**0.573**
Selenium	**7782-49-2**	**0.217**		**0.00788**
Thallium	**7440-28-0**	**0.00138**		**5.18E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0465**
Zinc	7440-66-6	22.8	U	67.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101324-HM
Matrix: Air
Lab ID: 4102129-16
Sample Volume: 2087.392 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:49

Comments: Q9537796 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0752**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.203**		**0.00730**
Barium	**7440-39-3**	**3.48**		**0.834**
Beryllium	**7440-41-7**	**0.00765**		**0.00249**
Cadmium	**7440-43-9**	**0.0657**		**0.0578**
Chromium	**7440-47-3**	**2.09**		**1.72**
Cobalt	**7440-48-4**	**0.250**		**0.0340**
Copper	**7440-50-8**	**20.3**		**2.05**
Lead	**7439-92-1**	**0.522**		**0.167**
Manganese	**7439-96-5**	**7.53**		**1.47**
Molybdenum	**7439-98-7**	**1.63**		**0.280**
Nickel	**7440-02-0**	**0.904**		**0.508**
Selenium	**7782-49-2**	**0.195**		**0.00698**
Thallium	**7440-28-0**	**0.00121**		**4.59E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0412**
Zinc	7440-66-6	16.2	U	59.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101324-HM
Matrix: Air
Lab ID: 4102129-17
Sample Volume: 2008.057 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:02

Comments: Q9537798 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0305	SL, U	0.0313
Arsenic	**7440-38-2**	**0.141**		**0.00759**
Barium	**7440-39-3**	**2.04**		**0.867**
Beryllium	**7440-41-7**	**0.0131**		**0.00259**
Cadmium	7440-43-9	0.0110	U	0.0600
Chromium	**7440-47-3**	**2.35**		**1.79**
Cobalt	**7440-48-4**	**0.304**		**0.0353**
Copper	**7440-50-8**	**40.7**		**2.13**
Lead	**7439-92-1**	**0.304**		**0.173**
Manganese	**7439-96-5**	**7.58**		**1.53**
Molybdenum	**7439-98-7**	**2.43**		**0.291**
Nickel	**7440-02-0**	**1.03**		**0.528**
Selenium	**7782-49-2**	**0.216**		**0.00726**
Thallium	**7440-28-0**	**0.00121**		**4.77E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0429**
Zinc	7440-66-6	14.9	U	62.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101324-HM
Matrix: Air
Lab ID: 4102129-18
Sample Volume: 1798.724 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:16

Comments: Q9537800 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.264**		**0.00848**
Barium	**7440-39-3**	**3.20**		**0.968**
Beryllium	**7440-41-7**	**0.0151**		**0.00289**
Cadmium	7440-43-9	0.0178	U	0.0670
Chromium	**7440-47-3**	**3.25**		**2.00**
Cobalt	**7440-48-4**	**0.437**		**0.0394**
Copper	**7440-50-8**	**19.6**		**2.38**
Lead	**7439-92-1**	**0.406**		**0.194**
Manganese	**7439-96-5**	**13.6**		**1.71**
Molybdenum	**7439-98-7**	**1.55**		**0.325**
Nickel	**7440-02-0**	**1.39**		**0.590**
Selenium	**7782-49-2**	**0.216**		**0.00810**
Thallium	**7440-28-0**	**0.00149**		**5.33E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0478**
Zinc	7440-66-6	15.9	U	69.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101324-HM **Lab ID:** 4102129-19 **Sampled:** 10/13/24 00:00
Matrix: Air **Sample Volume:** 1850.71 m³ **Received:** 10/21/24 12:17
Filter ID: **Analysis Date:** 10/23/24 05:30

Comments: Q9537803 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00715	SL, U	0.0339
Arsenic	7440-38-2	0.00764	U	0.00824
Barium	7440-39-3	0.589	U	0.941
Beryllium	7440-41-7	6.33E-4	U	0.00281
Cadmium	7440-43-9	0.00330	U	0.0651
Chromium	7440-47-3	1.52	U	1.94
Cobalt	7440-48-4	0.0290	U	0.0383
Copper	7440-50-8	0.368	U	2.31
Lead	7439-92-1	0.0590	U	0.188
Manganese	7439-96-5	0.258	U	1.66
Molybdenum	7439-98-7	0.266	U	0.316
Nickel	7440-02-0	0.278	U	0.573
Selenium	7782-49-2	0.00240	U	0.00788
Thallium	7440-28-0	7.24E-5	U	5.18E-4
Vanadium	7440-62-2	0.0365	U	0.0465
Zinc	7440-66-6	7.49	U	67.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101424-HM
Matrix: Air
Lab ID: 4102129-20
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:44

Comments: Q9537802 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0716**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.319**		**0.00822**
Barium	**7440-39-3**	**5.11**		**0.939**
Beryllium	**7440-41-7**	**0.0162**		**0.00281**
Cadmium	7440-43-9	0.0215	U	0.0650
Chromium	**7440-47-3**	**4.35**		**1.94**
Cobalt	**7440-48-4**	**0.686**		**0.0382**
Copper	**7440-50-8**	**56.8**		**2.31**
Lead	**7439-92-1**	**0.676**		**0.188**
Manganese	**7439-96-5**	**17.7**		**1.66**
Molybdenum	**7439-98-7**	**3.99**		**0.315**
Nickel	**7440-02-0**	**2.03**		**0.572**
Selenium	**7782-49-2**	**0.193**		**0.00786**
Thallium	**7440-28-0**	**0.00174**		**5.17E-4**
Vanadium	**7440-62-2**	**2.25**		**0.0464**
Zinc	7440-66-6	18.7	U	67.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101424-HM
Matrix: Air
Lab ID: 4102129-21
Sample Volume: 2088.267 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/22/24 18:27

Comments: Q9537805 - MS/MSD Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0916**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.323**		**0.00730**
Barium	**7440-39-3**	**5.09**		**0.834**
Beryllium	**7440-41-7**	**0.0162**		**0.00249**
Cadmium	7440-43-9	0.0503	U	0.0577
Chromium	**7440-47-3**	**3.57**		**1.72**
Cobalt	**7440-48-4**	**0.562**		**0.0340**
Copper	**7440-50-8**	**22.4**		**2.05**
Lead	**7439-92-1**	**1.06**		**0.167**
Manganese	**7439-96-5**	**15.3**		**1.47**
Molybdenum	**7439-98-7**	**1.25**		**0.280**
Nickel	**7440-02-0**	**1.65**		**0.508**
Selenium	**7782-49-2**	**0.174**		**0.00698**
Thallium	**7440-28-0**	**0.00152**		**4.59E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0412**
Zinc	7440-66-6	17.1	U	59.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101424-HM
Matrix: Air
Lab ID: 4102129-22
Sample Volume: 2017.236 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 06:34

Comments: Q9537806 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0388**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.158**		**0.00756**
Barium	**7440-39-3**	**2.95**		**0.863**
Beryllium	**7440-41-7**	**0.0133**		**0.00258**
Cadmium	7440-43-9	0.0122	U	0.0598
Chromium	**7440-47-3**	**2.48**		**1.78**
Cobalt	**7440-48-4**	**0.346**		**0.0352**
Copper	**7440-50-8**	**49.9**		**2.12**
Lead	**7439-92-1**	**0.336**		**0.173**
Manganese	**7439-96-5**	**8.64**		**1.52**
Molybdenum	**7439-98-7**	**3.29**		**0.290**
Nickel	**7440-02-0**	**1.17**		**0.526**
Selenium	**7782-49-2**	**0.155**		**0.00723**
Thallium	**7440-28-0**	**0.00115**		**4.75E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0427**
Zinc	7440-66-6	12.2	U	61.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101424-HM
Matrix: Air
Lab ID: 4102129-23
Sample Volume: 1788.205 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 06:48

Comments: Q9537807 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0762**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.480**		**0.00853**
Barium	**7440-39-3**	**4.66**		**0.974**
Beryllium	**7440-41-7**	**0.0268**		**0.00291**
Cadmium	7440-43-9	0.0183	U	0.0674
Chromium	**7440-47-3**	**4.65**		**2.01**
Cobalt	**7440-48-4**	**0.897**		**0.0397**
Copper	**7440-50-8**	**24.1**		**2.39**
Lead	**7439-92-1**	**0.804**		**0.195**
Manganese	**7439-96-5**	**26.8**		**1.72**
Molybdenum	**7439-98-7**	**1.73**		**0.327**
Nickel	**7440-02-0**	**2.11**		**0.593**
Selenium	**7782-49-2**	**0.224**		**0.00815**
Thallium	**7440-28-0**	**0.00187**		**5.36E-4**
Vanadium	**7440-62-2**	**2.68**		**0.0481**
Zinc	7440-66-6	12.0	U	69.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101524-HM
Matrix: Air
Lab ID: 4102129-24
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:03

Comments: Q9537808 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.392**		**0.00824**
Barium	**7440-39-3**	**5.40**		**0.941**
Beryllium	**7440-41-7**	**0.0156**		**0.00281**
Cadmium	7440-43-9	0.0280	U	0.0651
Chromium	**7440-47-3**	**3.57**		**1.94**
Cobalt	**7440-48-4**	**0.580**		**0.0383**
Copper	**7440-50-8**	**46.4**		**2.31**
Lead	**7439-92-1**	**1.09**		**0.188**
Manganese	**7439-96-5**	**16.0**		**1.66**
Molybdenum	**7439-98-7**	**3.15**		**0.316**
Nickel	**7440-02-0**	**1.57**		**0.573**
Selenium	**7782-49-2**	**0.360**		**0.00788**
Thallium	**7440-28-0**	**0.00228**		**5.18E-4**
Vanadium	**7440-62-2**	**1.98**		**0.0465**
Zinc	7440-66-6	23.5	U	67.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101524-HM
Matrix: Air
Lab ID: 4102129-25
Sample Volume: 2069.575 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:18

Comments: Q9537809 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.303**		**0.00737**
Barium	**7440-39-3**	**4.96**		**0.841**
Beryllium	**7440-41-7**	**0.0140**		**0.00252**
Cadmium	7440-43-9	0.0183	U	0.0583
Chromium	**7440-47-3**	**2.81**		**1.74**
Cobalt	**7440-48-4**	**0.477**		**0.0343**
Copper	**7440-50-8**	**21.7**		**2.07**
Lead	**7439-92-1**	**0.838**		**0.168**
Manganese	**7439-96-5**	**13.7**		**1.49**
Molybdenum	**7439-98-7**	**1.41**		**0.282**
Nickel	**7440-02-0**	**1.39**		**0.513**
Selenium	**7782-49-2**	**0.312**		**0.00704**
Thallium	**7440-28-0**	**0.00232**		**4.63E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0416**
Zinc	7440-66-6	17.7	U	60.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101524-HM
Matrix: Air
Lab ID: 4102129-26
Sample Volume: 2017.236 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:32

Comments: Q9537810 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0620**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.290**		**0.00756**
Barium	**7440-39-3**	**3.93**		**0.863**
Beryllium	**7440-41-7**	**0.0249**		**0.00258**
Cadmium	7440-43-9	0.0296	U	0.0598
Chromium	**7440-47-3**	**3.26**		**1.78**
Cobalt	**7440-48-4**	**0.523**		**0.0352**
Copper	**7440-50-8**	**47.5**		**2.12**
Lead	**7439-92-1**	**0.522**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.52**
Molybdenum	**7439-98-7**	**3.87**		**0.290**
Nickel	**7440-02-0**	**1.88**		**0.526**
Selenium	**7782-49-2**	**0.350**		**0.00723**
Thallium	**7440-28-0**	**0.00234**		**4.75E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0427**
Zinc	7440-66-6	14.1	U	61.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101524-HM
Matrix: Air
Lab ID: 4102129-27
Sample Volume: 1821.746 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:46

Comments: Q9537811 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0937**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.701**		**0.00837**
Barium	**7440-39-3**	**5.36**		**0.956**
Beryllium	**7440-41-7**	**0.0269**		**0.00286**
Cadmium	7440-43-9	0.0309	U	0.0662
Chromium	**7440-47-3**	**4.09**		**1.97**
Cobalt	**7440-48-4**	**0.737**		**0.0389**
Copper	**7440-50-8**	**23.5**		**2.35**
Lead	**7439-92-1**	**0.856**		**0.191**
Manganese	**7439-96-5**	**24.0**		**1.69**
Molybdenum	**7439-98-7**	**1.67**		**0.321**
Nickel	**7440-02-0**	**1.97**		**0.582**
Selenium	**7782-49-2**	**0.388**		**0.00800**
Thallium	**7440-28-0**	**0.00281**		**5.26E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0472**
Zinc	7440-66-6	17.3	U	68.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101524-HM
Matrix: Air
Lab ID: 4102129-28
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/15/24 00:00
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:01

Comments: Q9537816 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0165	SL, U	0.0339
Arsenic	7440-38-2	0.00560	U	0.00824
Barium	7440-39-3	0.566	U	0.941
Beryllium	7440-41-7	6.14E-4	U	0.00281
Cadmium	7440-43-9	0.00324	U	0.0651
Chromium	7440-47-3	1.44	U	1.94
Cobalt	7440-48-4	0.0291	U	0.0383
Copper	7440-50-8	1.40	U	2.31
Lead	7439-92-1	0.0619	U	0.188
Manganese	7439-96-5	0.255	U	1.66
Molybdenum	7439-98-7	0.246	U	0.316
Nickel	7440-02-0	0.434	U	0.573
Selenium	7782-49-2	0.00139	U	0.00788
Thallium	7440-28-0	7.48E-5	U	5.18E-4
Vanadium	7440-62-2	0.0399	U	0.0465
Zinc	7440-66-6	10.9	U	67.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101624-HM
Matrix: Air
Lab ID: 4102129-29
Sample Volume: 1828.982 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:15

Comments: Q9537812 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.145**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.625**		**0.00834**
Barium	**7440-39-3**	**9.27**		**0.952**
Beryllium	**7440-41-7**	**0.0279**		**0.00285**
Cadmium	7440-43-9	0.0294	U	0.0659
Chromium	**7440-47-3**	**5.79**		**1.97**
Cobalt	**7440-48-4**	**1.21**		**0.0388**
Copper	**7440-50-8**	**58.6**		**2.34**
Lead	**7439-92-1**	**1.35**		**0.190**
Manganese	**7439-96-5**	**28.6**		**1.68**
Molybdenum	**7439-98-7**	**3.76**		**0.319**
Nickel	**7440-02-0**	**3.31**		**0.580**
Selenium	**7782-49-2**	**0.321**		**0.00797**
Thallium	**7440-28-0**	**0.00315**		**5.24E-4**
Vanadium	**7440-62-2**	**3.73**		**0.0471**
Zinc	7440-66-6	22.3	U	68.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101624-HM
Matrix: Air
Lab ID: 4102129-30
Sample Volume: 2138.056 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:30

Comments: Q9537813 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0849**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.379**		**0.00713**
Barium	**7440-39-3**	**5.17**		**0.814**
Beryllium	**7440-41-7**	**0.0178**		**0.00244**
Cadmium	7440-43-9	0.0191	U	0.0564
Chromium	**7440-47-3**	**4.21**		**1.68**
Cobalt	**7440-48-4**	**0.740**		**0.0332**
Copper	**7440-50-8**	**22.1**		**2.00**
Lead	**7439-92-1**	**0.750**		**0.163**
Manganese	**7439-96-5**	**17.6**		**1.44**
Molybdenum	**7439-98-7**	**1.39**		**0.273**
Nickel	**7440-02-0**	**1.97**		**0.496**
Selenium	**7782-49-2**	**0.254**		**0.00682**
Thallium	**7440-28-0**	**0.00247**		**4.48E-4**
Vanadium	**7440-62-2**	**2.25**		**0.0403**
Zinc	7440-66-6	14.8	U	58.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101624-HM
Matrix: Air
Lab ID: 4102129-31
Sample Volume: 2031.626 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 09:20

Comments: Q9537817 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0719**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.311**		**0.00750**
Barium	**7440-39-3**	**4.81**		**0.857**
Beryllium	**7440-41-7**	**0.0344**		**0.00256**
Cadmium	7440-43-9	0.0219	U	0.0593
Chromium	**7440-47-3**	**4.34**		**1.77**
Cobalt	**7440-48-4**	**0.833**		**0.0349**
Copper	**7440-50-8**	**50.2**		**2.11**
Lead	**7439-92-1**	**0.615**		**0.171**
Manganese	**7439-96-5**	**20.1**		**1.51**
Molybdenum	**7439-98-7**	**2.77**		**0.288**
Nickel	**7440-02-0**	**2.06**		**0.522**
Selenium	**7782-49-2**	**0.279**		**0.00718**
Thallium	**7440-28-0**	**0.00253**		**4.72E-4**
Vanadium	**7440-62-2**	**2.36**		**0.0424**
Zinc	7440-66-6	13.1	U	61.5

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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101624-HM
Matrix: Air
Lab ID: 4102129-32
Sample Volume: 1849.359 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 09:50

Comments: Q9537818 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.647**		**0.00824**
Barium	**7440-39-3**	**5.88**		**0.941**
Beryllium	**7440-41-7**	**0.0375**		**0.00282**
Cadmium	7440-43-9	0.0242	U	0.0652
Chromium	**7440-47-3**	**5.38**		**1.94**
Cobalt	**7440-48-4**	**1.16**		**0.0384**
Copper	**7440-50-8**	**26.0**		**2.31**
Lead	**7439-92-1**	**0.703**		**0.188**
Manganese	**7439-96-5**	**33.2**		**1.66**
Molybdenum	**7439-98-7**	**1.84**		**0.316**
Nickel	**7440-02-0**	**2.68**		**0.574**
Selenium	**7782-49-2**	**0.326**		**0.00788**
Thallium	**7440-28-0**	**0.00325**		**5.18E-4**
Vanadium	**7440-62-2**	**3.05**		**0.0465**
Zinc	7440-66-6	14.4	U	67.6

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REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB1)				Prepared & Analyzed: 10/22/24						
Antimony	5.98		ng/l							
Arsenic	1.38		ng/l							
Barium	1.53		ng/l							
Beryllium	-0.345		ng/l							U
Cadmium	0.352		ng/l							
Chromium	4.62		ng/l							
Cobalt	0.628		ng/l							
Copper	50.2		ng/l							
Lead	14.8		ng/l							
Manganese	7.60		ng/l							
Molybdenum	66.1		ng/l							
Nickel	1.02		ng/l							
Selenium	0.770		ng/l							
Thallium	0.168		ng/l							
Vanadium	-23.7		ng/l							U
Zinc	-4.30		ng/l							U
Calibration Blank (2410073-CCB2)				Prepared & Analyzed: 10/22/24						
Antimony	4.47		ng/l							
Arsenic	0.163		ng/l							
Barium	4.24		ng/l							
Beryllium	-0.524		ng/l							U
Cadmium	0.869		ng/l							
Chromium	7.71		ng/l							
Cobalt	1.24		ng/l							
Copper	78.1		ng/l							
Lead	8.79		ng/l							
Manganese	12.1		ng/l							
Molybdenum	22.7		ng/l							
Nickel	0.609		ng/l							
Selenium	1.85		ng/l							
Thallium	0.252		ng/l							
Vanadium	-25.3		ng/l							U
Zinc	-1.10		ng/l							U
Calibration Blank (2410073-CCB3)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	3.82		ng/l							
Arsenic	4.29		ng/l							
Barium	2.61		ng/l							
Beryllium	-0.915		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB3) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Cadmium	0.518		ng/l							
Chromium	3.91		ng/l							
Cobalt	0.792		ng/l							
Copper	49.9		ng/l							
Lead	9.46		ng/l							
Manganese	9.00		ng/l							
Molybdenum	23.4		ng/l							
Nickel	1.48		ng/l							
Selenium	-2.18		ng/l							U
Thallium	0.943		ng/l							
Vanadium	-30.3		ng/l							U
Zinc	-7.45		ng/l							U
Calibration Blank (2410073-CCB4)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	3.06		ng/l							
Arsenic	2.40		ng/l							
Barium	1.56		ng/l							
Beryllium	-1.70		ng/l							U
Cadmium	0.120		ng/l							
Chromium	1.67		ng/l							
Cobalt	0.252		ng/l							
Copper	26.9		ng/l							
Lead	5.38		ng/l							
Manganese	2.08		ng/l							
Molybdenum	19.2		ng/l							
Nickel	-0.674		ng/l							U
Selenium	11.7		ng/l							
Thallium	0.293		ng/l							
Vanadium	-21.8		ng/l							U
Zinc	-15.8		ng/l							U
Calibration Blank (2410073-CCB5)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	2.59		ng/l							
Arsenic	8.75		ng/l							
Barium	2.32		ng/l							
Beryllium	-1.88		ng/l							U
Cadmium	0.385		ng/l							
Chromium	3.74		ng/l							
Cobalt	0.513		ng/l							
Copper	42.4		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB5) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Lead	6.26		ng/l							
Manganese	4.98		ng/l							
Molybdenum	22.5		ng/l							
Nickel	-0.0192		ng/l							U
Selenium	-4.87		ng/l							U
Thallium	1.00		ng/l							
Vanadium	-26.3		ng/l							U
Zinc	-6.99		ng/l							U
Calibration Blank (2410073-CCB6)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	2.83		ng/l							
Arsenic	7.50		ng/l							
Barium	2.14		ng/l							
Beryllium	-2.21		ng/l							U
Cadmium	0.239		ng/l							
Chromium	3.41		ng/l							
Cobalt	0.559		ng/l							
Copper	43.6		ng/l							
Lead	4.74		ng/l							
Manganese	5.56		ng/l							
Molybdenum	25.5		ng/l							
Nickel	-1.26		ng/l							U
Selenium	5.02		ng/l							
Thallium	0.734		ng/l							
Vanadium	-28.1		ng/l							U
Zinc	-10.0		ng/l							U
Calibration Blank (2410073-CCB7)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	0.905		ng/l							
Arsenic	7.59		ng/l							
Barium	0.182		ng/l							
Beryllium	-2.46		ng/l							U
Cadmium	0.126		ng/l							
Chromium	0.566		ng/l							
Cobalt	0.0599		ng/l							
Copper	21.6		ng/l							
Lead	1.41		ng/l							
Manganese	0.735		ng/l							
Molybdenum	8.54		ng/l							
Nickel	-1.78		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB7) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Selenium	0.154		ng/l							
Thallium	0.680		ng/l							
Vanadium	-33.6		ng/l							U
Zinc	-23.4		ng/l							U
Calibration Check (2410073-CCV1)				Prepared & Analyzed: 10/22/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	498		ng/l	500.00		99.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2410073-CCV2)				Prepared & Analyzed: 10/22/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4780		ng/l	5000.0		95.5	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	513000		ng/l	500000		103	90-110			

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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV3)				Prepared & Analyzed: 10/22/24						
Antimony	19900		ng/l	20000		99.7	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2410073-CCV4)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2410073-CCV5)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			

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SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV5) Contin					Prepared: 10/22/24 Analyzed: 10/23/24					
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2410073-CCV6)					Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		105	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		94.9	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2410073-CCV7)					Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV7) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Lead	206000		ng/l	200000		103	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2410073-HCV1)				Prepared & Analyzed: 10/22/24						
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	39900		ng/l	40000		99.7	95-105			
Barium	404000		ng/l	400000		101	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	476000		ng/l	480000		99.2	95-105			
Cobalt	99300		ng/l	100000		99.3	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.1	95-105			
Lead	397000		ng/l	400000		99.3	95-105			
Manganese	993000		ng/l	1.0000E6		99.3	95-105			
Molybdenum	99400		ng/l	100000		99.4	95-105			
Nickel	238000		ng/l	240000		99.2	95-105			
Selenium	40200		ng/l	40000		100	95-105			
Thallium	984		ng/l	1000.0		98.4	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	998000		ng/l	1.0000E6		99.8	95-105			
Initial Cal Blank (2410073-ICB1)				Prepared & Analyzed: 10/22/24						
Antimony	5.91		ng/l							
Arsenic	-7.08		ng/l							U
Barium	2.69		ng/l							
Beryllium	-0.623		ng/l							U
Cadmium	0.574		ng/l							
Chromium	3.52		ng/l							
Cobalt	0.697		ng/l							
Copper	43.9		ng/l							
Lead	18.8		ng/l							
Manganese	10.4		ng/l							
Molybdenum	29.1		ng/l							
Nickel	1.85		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Initial Cal Blank (2410073-ICB1) Continu				Prepared & Analyzed: 10/22/24						
Selenium	-3.56		ng/l							U
Thallium	-0.00885		ng/l							U
Vanadium	-26.7		ng/l							U
Zinc	9.55		ng/l							
Initial Cal Check (2410073-ICV1)				Prepared & Analyzed: 10/22/24						
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19000		ng/l	20000		95.1	90-110			
Barium	192000		ng/l	200000		96.2	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	235000		ng/l	240000		97.8	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	490000		ng/l	500000		98.0	90-110			
Molybdenum	48900		ng/l	50000		97.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2410073-IFA1)				Prepared & Analyzed: 10/22/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	328000		ng/l	300000		109	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Interference Check B (2410073-IFB1)					Prepared & Analyzed: 10/22/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20100		ng/l	20000		101	80-120			
Barium	200000		ng/l	200000		99.9	80-120			
Beryllium	4770		ng/l	5000.0		95.4	80-120			
Cadmium	19500		ng/l	20000		97.6	80-120			
Chromium	235000		ng/l	240000		97.8	80-120			
Cobalt	49800		ng/l	50000		99.5	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.6	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	500000		ng/l	500000		100	80-120			
Molybdenum	381000		ng/l	350000		109	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	18600		ng/l	20000		93.1	80-120			
Thallium	510		ng/l	500.00		102	80-120			
Vanadium	19000		ng/l	20000		95.1	80-120			
Zinc	465000		ng/l	500000		92.9	80-120			
Batch B4J2207 - ICP-MS Extraction										
Blank (B4J2207-BLK1)					Prepared & Analyzed: 10/22/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J2207-BS1)					Prepared & Analyzed: 10/22/24					
Antimony	0.806	0.0386	ng/m³ Air	1.3829		58.2	80-120			SL
Arsenic	2.64	0.00937	ng/m³ Air	2.7658		95.5	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.5	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
LCS (B4J2207-BS1) Continued					Prepared & Analyzed: 10/22/24					
Beryllium	1.29	0.00320	ng/m³ Air	1.3829		93.6	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	14.3	2.21	ng/m³ Air	13.829		104	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		98.9	80-120			
Copper	27.5	2.63	ng/m³ Air	27.658		99.4	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.6	80-120			
Manganese	8.12	1.89	ng/m³ Air	8.2975		97.9	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		106	80-120			
Nickel	3.15	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.5	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		92.9	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4J2207-BS2)					Prepared & Analyzed: 10/22/24					
Antimony	0.789	0.0386	ng/m³ Air	1.3829		57.1	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.3	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.8	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.2	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.5	80-120			
Chromium	14.3	2.21	ng/m³ Air	13.829		103	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.7	80-120			
Copper	27.4	2.63	ng/m³ Air	27.658		99.2	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.1	80-120			
Manganese	8.16	1.89	ng/m³ Air	8.2975		98.4	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.13	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.0	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.8	80-120			
Zinc	88.9	76.8	ng/m³ Air	82.975		107	80-120			
LCS (B4J2207-BS3)					Prepared & Analyzed: 10/22/24					
Antimony	1.39	0.0386	ng/m³ Air	1.3829		100	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.2	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	13.9	2.21	ng/m³ Air	13.829		100	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		100	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
LCS (B4J2207-BS3) Continued					Prepared & Analyzed: 10/22/24					
Copper	27.4	2.63	ng/m³ Air	27.658		99.1	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.8	80-120			
Manganese	8.22	1.89	ng/m³ Air	8.2975		99.1	80-120			
Molybdenum	1.33	0.359	ng/m³ Air	1.3829		96.4	80-120			
Nickel	2.79	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.6	80-120			
Vanadium	2.81	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	87.3	76.8	ng/m³ Air	82.975		105	80-120			
LCS (B4J2207-BS4)					Prepared & Analyzed: 10/22/24					
Antimony	1.37	0.0386	ng/m³ Air	1.3829		99.1	80-120			SL
Arsenic	2.67	0.00937	ng/m³ Air	2.7658		96.7	80-120			
Barium	27.1	1.07	ng/m³ Air	27.658		98.1	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		95.9	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	13.6	2.21	ng/m³ Air	13.829		98.2	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.1	80-120			
Copper	26.7	2.63	ng/m³ Air	27.658		96.6	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.7	80-120			
Manganese	8.07	1.89	ng/m³ Air	8.2975		97.2	80-120			
Molybdenum	1.33	0.359	ng/m³ Air	1.3829		96.0	80-120			
Nickel	2.75	0.652	ng/m³ Air	2.7658		99.4	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.5	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.2	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	85.3	76.8	ng/m³ Air	82.975		103	80-120			
Duplicate (B4J2207-DUP1)		**Source: 4102129-21**			Prepared & Analyzed: 10/22/24					
Antimony	0.100	0.0301	ng/m³ Air		0.0916			9.10	10	SL
Arsenic	0.317	0.00730	ng/m³ Air		0.323			1.80	10	
Barium	5.08	0.834	ng/m³ Air		5.09			0.121	10	
Beryllium	0.0163	0.00249	ng/m³ Air		0.0162			0.529	10	
Cadmium	ND	0.0577	ng/m³ Air		ND				10	U
Chromium	3.48	1.72	ng/m³ Air		3.57			2.29	10	
Cobalt	0.569	0.0340	ng/m³ Air		0.562			1.18	10	
Copper	23.4	2.05	ng/m³ Air		22.4			4.68	10	
Lead	1.03	0.167	ng/m³ Air		1.06			2.73	10	
Manganese	15.4	1.47	ng/m³ Air		15.3			0.156	10	
Molybdenum	1.29	0.280	ng/m³ Air		1.25			2.73	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Duplicate (B4J2207-DUP1) Continued			**Source: 4102129-21**		Prepared & Analyzed: 10/22/24					
Nickel	1.63	0.508	ng/m³ Air		1.65			1.41	10	
Selenium	0.181	0.00698	ng/m³ Air		0.174			3.93	10	
Thallium	0.00144	4.59E-4	ng/m³ Air		0.00152			5.30	10	
Vanadium	2.00	0.0412	ng/m³ Air		2.00			0.101	10	
Zinc	ND	59.8	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP2)			**Source: 4102129-01**		Prepared & Analyzed: 10/22/24					
Antimony	0.117	0.0322	ng/m³ Air		0.120			2.33	10	SL
Arsenic	0.798	0.00783	ng/m³ Air		0.864			7.88	10	
Barium	14.4	0.894	ng/m³ Air		15.1			4.40	10	
Beryllium	0.0609	0.00267	ng/m³ Air		0.0574			5.91	10	
Cadmium	0.0627	0.0619	ng/m³ Air		ND				10	
Chromium	11.7	1.85	ng/m³ Air		12.6			7.26	10	
Cobalt	3.10	0.0364	ng/m³ Air		3.28			5.57	10	
Copper	59.4	2.20	ng/m³ Air		61.5			3.45	10	
Lead	1.20	0.179	ng/m³ Air		1.21			0.758	10	
Manganese	66.7	1.58	ng/m³ Air		71.2			6.41	10	
Molybdenum	2.67	0.300	ng/m³ Air		2.51			6.26	10	
Nickel	8.33	0.545	ng/m³ Air		8.93			6.92	10	
Selenium	0.326	0.00748	ng/m³ Air		0.349			6.67	10	
Thallium	0.00298	4.92E-4	ng/m³ Air		0.00317			6.18	10	
Vanadium	8.64	0.0442	ng/m³ Air		9.32			7.60	10	
Zinc	ND	64.1	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP3)			**Source: 4102129-14**		Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	0.0671	0.0363	ng/m³ Air		0.0682			1.59	10	SL
Arsenic	0.204	0.00881	ng/m³ Air		0.204			0.0117	10	
Barium	2.78	1.01	ng/m³ Air		2.80			0.936	10	
Beryllium	0.0144	0.00301	ng/m³ Air		0.0143			0.693	10	
Cadmium	ND	0.0697	ng/m³ Air		ND				10	U
Chromium	3.05	2.08	ng/m³ Air		3.09			1.09	10	
Cobalt	0.360	0.0410	ng/m³ Air		0.362			0.575	10	
Copper	29.3	2.47	ng/m³ Air		29.3			0.0753	10	
Lead	0.312	0.201	ng/m³ Air		0.316			1.03	10	
Manganese	11.2	1.78	ng/m³ Air		11.2			0.487	10	
Molybdenum	1.55	0.338	ng/m³ Air		1.57			1.09	10	
Nickel	1.51	0.613	ng/m³ Air		1.50			0.219	10	
Selenium	0.177	0.00842	ng/m³ Air		0.193			8.82	10	
Thallium	7.19E-4	5.54E-4	ng/m³ Air		7.35E-4			2.19	10	
Vanadium	1.42	0.0497	ng/m³ Air		1.44			1.27	10	

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REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Duplicate (B4J2207-DUP3) Continued		**Source: 4102129-14**		Prepared: 10/22/24 Analyzed: 10/23/24						
Zinc	ND	72.2	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP4)		**Source: 4102129-31**		Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	0.0709	0.0309	ng/m³ Air		0.0719			1.46	10	SL
Arsenic	0.315	0.00750	ng/m³ Air		0.311			1.48	10	
Barium	4.76	0.857	ng/m³ Air		4.81			0.971	10	
Beryllium	0.0348	0.00256	ng/m³ Air		0.0344			1.22	10	
Cadmium	ND	0.0593	ng/m³ Air		ND				10	U
Chromium	4.36	1.77	ng/m³ Air		4.34			0.346	10	
Cobalt	0.841	0.0349	ng/m³ Air		0.833			0.936	10	
Copper	50.5	2.11	ng/m³ Air		50.2			0.623	10	
Lead	0.610	0.171	ng/m³ Air		0.615			0.813	10	
Manganese	20.2	1.51	ng/m³ Air		20.1			0.498	10	
Molybdenum	2.79	0.288	ng/m³ Air		2.77			0.703	10	
Nickel	2.07	0.522	ng/m³ Air		2.06			0.360	10	
Selenium	0.277	0.00718	ng/m³ Air		0.279			0.973	10	
Thallium	0.00261	4.72E-4	ng/m³ Air		0.00253			3.13	10	
Vanadium	2.37	0.0424	ng/m³ Air		2.36			0.473	10	
Zinc	ND	61.5	ng/m³ Air		ND				10	U
Matrix Spike (B4J2207-MS1)		**Source: 4102129-21**		Prepared & Analyzed: 10/22/24						
Antimony	0.541	0.0301	ng/m³ Air	1.0774	0.0916	41.7	80-120			SL
Arsenic	2.30	0.00730	ng/m³ Air	2.1549	0.323	91.6	80-120			
Barium	25.2	0.834	ng/m³ Air	21.549	5.09	93.4	80-120			
Beryllium	1.04	0.00249	ng/m³ Air	1.0774	0.0162	95.4	80-120			
Cadmium	1.07	0.0577	ng/m³ Air	1.0774	ND	98.9	80-120			
Chromium	14.6	1.72	ng/m³ Air	10.774	3.57	102	80-120			
Cobalt	1.59	0.0340	ng/m³ Air	1.0774	0.562	95.3	80-120			
Copper	42.1	2.05	ng/m³ Air	21.549	22.4	91.8	80-120			
Lead	11.5	0.167	ng/m³ Air	10.774	1.06	97.0	80-120			
Manganese	20.9	1.47	ng/m³ Air	6.4647	15.3	85.5	80-120			
Molybdenum	2.23	0.280	ng/m³ Air	1.0774	1.25	91.3	80-120			
Nickel	3.79	0.508	ng/m³ Air	2.1549	1.65	99.3	80-120			
Selenium	2.16	0.00698	ng/m³ Air	2.1549	0.174	92.1	80-120			
Thallium	0.0993	4.59E-4	ng/m³ Air	0.10774	0.00152	90.8	80-120			
Vanadium	3.99	0.0412	ng/m³ Air	2.1549	2.00	92.4	80-120			
Zinc	80.0	59.8	ng/m³ Air	64.647	ND	124	80-120			
Matrix Spike (B4J2207-MS2)		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Antimony	0.568	0.0322	ng/m³ Air	1.1551	0.120	38.8	80-120			SL
Arsenic	2.73	0.00783	ng/m³ Air	2.3102	0.864	80.8	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Matrix Spike (B4J2207-MS2) Continued	**Source: 4102129-01**			Prepared & Analyzed: 10/22/24						
Barium	39.0	0.894	ng/m³ Air	23.102	15.1	104	80-120			
Beryllium	1.19	0.00267	ng/m³ Air	1.1551	0.0574	98.1	80-120			
Cadmium	1.15	0.0619	ng/m³ Air	1.1551	ND	99.8	80-120			
Chromium	23.6	1.85	ng/m³ Air	11.551	12.6	95.1	80-120			
Cobalt	4.52	0.0364	ng/m³ Air	1.1551	3.28	107	80-120			
Copper	88.3	2.20	ng/m³ Air	23.102	61.5	116	80-120			
Lead	12.6	0.179	ng/m³ Air	11.551	1.21	99.0	80-120			
Manganese	80.9	1.58	ng/m³ Air	6.9307	71.2	141	80-120			QM-4X
Molybdenum	3.65	0.300	ng/m³ Air	1.1551	2.51	98.9	80-120			
Nickel	11.3	0.545	ng/m³ Air	2.3102	8.93	105	80-120			
Selenium	2.36	0.00748	ng/m³ Air	2.3102	0.349	87.2	80-120			
Thallium	0.107	4.92E-4	ng/m³ Air	0.11551	0.00317	89.5	80-120			
Vanadium	11.7	0.0442	ng/m³ Air	2.3102	9.32	102	80-120			E
Zinc	94.7	64.1	ng/m³ Air	69.307	ND	137	80-120			
Matrix Spike Dup (B4J2207-MSD1)	**Source: 4102129-21**			Prepared & Analyzed: 10/22/24						
Antimony	0.562	0.0301	ng/m³ Air	1.0774	0.0916	43.7	80-120	3.86	20	SL
Arsenic	2.38	0.00730	ng/m³ Air	2.1549	0.323	95.6	80-120	3.69	20	
Barium	26.2	0.834	ng/m³ Air	21.549	5.09	97.9	80-120	3.77	20	
Beryllium	1.07	0.00249	ng/m³ Air	1.0774	0.0162	97.8	80-120	2.48	20	
Cadmium	1.11	0.0577	ng/m³ Air	1.0774	ND	103	80-120	3.79	20	
Chromium	14.1	1.72	ng/m³ Air	10.774	3.57	97.9	80-120	3.34	20	
Cobalt	1.63	0.0340	ng/m³ Air	1.0774	0.562	99.3	80-120	2.70	20	
Copper	46.8	2.05	ng/m³ Air	21.549	22.4	113	80-120	10.4	20	
Lead	12.0	0.167	ng/m³ Air	10.774	1.06	101	80-120	4.00	20	
Manganese	21.4	1.47	ng/m³ Air	6.4647	15.3	94.2	80-120	2.65	20	
Molybdenum	2.30	0.280	ng/m³ Air	1.0774	1.25	97.2	80-120	2.84	20	
Nickel	3.80	0.508	ng/m³ Air	2.1549	1.65	99.5	80-120	0.0787	20	
Selenium	2.25	0.00698	ng/m³ Air	2.1549	0.174	96.3	80-120	4.14	20	
Thallium	0.102	4.59E-4	ng/m³ Air	0.10774	0.00152	93.5	80-120	2.95	20	
Vanadium	4.04	0.0412	ng/m³ Air	2.1549	2.00	94.8	80-120	1.34	20	
Zinc	84.6	59.8	ng/m³ Air	64.647	ND	131	80-120	5.56	20	
Matrix Spike Dup (B4J2207-MSD2)	**Source: 4102129-01**			Prepared & Analyzed: 10/22/24						
Antimony	0.549	0.0322	ng/m³ Air	1.1551	0.120	37.2	80-120	3.35	20	SL
Arsenic	2.93	0.00783	ng/m³ Air	2.3102	0.864	89.4	80-120	6.98	20	
Barium	39.8	0.894	ng/m³ Air	23.102	15.1	107	80-120	1.95	20	
Beryllium	1.20	0.00267	ng/m³ Air	1.1551	0.0574	99.2	80-120	1.06	20	
Cadmium	1.20	0.0619	ng/m³ Air	1.1551	ND	104	80-120	4.08	20	
Chromium	24.8	1.85	ng/m³ Air	11.551	12.6	106	80-120	5.14	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Matrix Spike Dup (B4J2207-MSD2) Contir			**Source: 4102129-01**		Prepared & Analyzed: 10/22/24					
Cobalt	4.97	0.0364	ng/m³ Air	1.1551	3.28	146	80-120	9.48	20	QM-07
Copper	98.0	2.20	ng/m³ Air	23.102	61.5	158	80-120	10.4	20	QM-07
Lead	12.9	0.179	ng/m³ Air	11.551	1.21	101	80-120	1.90	20	
Manganese	91.7	1.58	ng/m³ Air	6.9307	71.2	297	80-120	12.5	20	QM-4X
Molybdenum	3.60	0.300	ng/m³ Air	1.1551	2.51	94.7	80-120	1.35	20	
Nickel	12.4	0.545	ng/m³ Air	2.3102	8.93	152	80-120	9.14	20	QM-07
Selenium	2.44	0.00748	ng/m³ Air	2.3102	0.349	90.7	80-120	3.30	20	
Thallium	0.107	4.92E-4	ng/m³ Air	0.11551	0.00317	89.8	80-120	0.374	20	
Vanadium	12.7	0.0442	ng/m³ Air	2.3102	9.32	147	80-120	8.63	20	E, QM-4X
Zinc	103	64.1	ng/m³ Air	69.307	ND	149	80-120	8.53	20	
Post Spike (B4J2207-PS1)			**Source: 4102129-21**		Prepared & Analyzed: 10/22/24					
Antimony	0.297	0.0301	ng/m³ Air	0.21549	0.0916	95.5	75-125			SL
Arsenic	1.29	0.00730	ng/m³ Air	1.0774	0.323	90.1	75-125			
Barium	7.13	0.834	ng/m³ Air	2.1549	5.09	95.0	75-125			
Beryllium	0.226	0.00249	ng/m³ Air	0.21549	0.0162	97.1	75-125			
Cadmium	0.153	0.0577	ng/m³ Air	0.10774	ND	142	75-125			
Chromium	4.56	1.72	ng/m³ Air	1.0774	3.57	92.8	75-125			
Cobalt	0.773	0.0340	ng/m³ Air	0.21549	0.562	98.2	75-125			
Copper	32.7	2.05	ng/m³ Air	10.774	22.4	96.2	75-125			
Lead	22.1	0.167	ng/m³ Air	21.549	1.06	97.8	75-125			
Manganese	17.3	1.47	ng/m³ Air	2.1549	15.3	91.1	75-125			
Molybdenum	2.22	0.280	ng/m³ Air	1.0774	1.25	90.2	75-125			
Nickel	3.73	0.508	ng/m³ Air	2.1549	1.65	96.3	75-125			
Selenium	1.16	0.00698	ng/m³ Air	1.0774	0.174	91.5	75-125			
Thallium	0.0518	4.59E-4	ng/m³ Air	5.3872E-2	0.00152	93.3	75-125			
Vanadium	3.01	0.0412	ng/m³ Air	1.0774	2.00	93.8	75-125			
Zinc	ND	59.8	ng/m³ Air	21.549	ND		75-125			U
Post Spike (B4J2207-PS2)			**Source: 4102129-01**		Prepared & Analyzed: 10/22/24					
Antimony	0.333	0.0322	ng/m³ Air	0.23102	0.120	92.5	75-125			SL
Arsenic	1.84	0.00783	ng/m³ Air	1.1551	0.864	84.4	75-125			
Barium	16.7	0.894	ng/m³ Air	2.3102	15.1	71.6	75-125			A-01, PS-01
Beryllium	0.288	0.00267	ng/m³ Air	0.23102	0.0574	99.6	75-125			
Cadmium	0.153	0.0619	ng/m³ Air	0.11551	ND	132	75-125			
Chromium	13.2	1.85	ng/m³ Air	1.1551	12.6	54.6	75-125			A-01, PS-01
Cobalt	3.40	0.0364	ng/m³ Air	0.23102	3.28	52.6	75-125			A-01, PS-01
Copper	72.1	2.20	ng/m³ Air	11.551	61.5	92.1	75-125			
Lead	22.9	0.179	ng/m³ Air	23.102	1.21	93.8	75-125			
Manganese	70.5	1.58	ng/m³ Air	2.3102	71.2	NR	75-125			A-01, PS-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Post Spike (B4J2207-PS2) Continued		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Molybdenum	3.41	0.300	ng/m³ Air	1.1551	2.51	78.4	75-125			
Nickel	10.9	0.545	ng/m³ Air	2.3102	8.93	84.2	75-125			
Selenium	1.34	0.00748	ng/m³ Air	1.1551	0.349	85.9	75-125			
Thallium	0.0534	4.92E-4	ng/m³ Air	5.7756E-2	0.00317	87.0	75-125			
Vanadium	10.1	0.0442	ng/m³ Air	1.1551	9.32	66.0	75-125			A-01, E, PS-0
Zinc	ND	64.1	ng/m³ Air	23.102	ND		75-125			U
Dilution Check (B4J2207-SRL1)		**Source: 4102129-21**		Prepared & Analyzed: 10/22/24						
Antimony	ND	0.150	ng/m³ Air		ND				10	SL, U
Arsenic	0.336	0.0365	ng/m³ Air		0.323			3.84	10	
Barium	5.21	4.17	ng/m³ Air		5.09			2.38	10	
Beryllium	0.0153	0.0125	ng/m³ Air		0.0162			5.98	10	
Cadmium	ND	0.289	ng/m³ Air		ND				10	U
Chromium	ND	8.61	ng/m³ Air		ND				10	U
Cobalt	0.570	0.170	ng/m³ Air		0.562			1.46	10	
Copper	23.4	10.2	ng/m³ Air		22.4			4.58	10	
Lead	1.07	0.834	ng/m³ Air		1.06			0.466	10	
Manganese	15.7	7.36	ng/m³ Air		15.3			2.31	10	
Molybdenum	ND	1.40	ng/m³ Air		ND				10	U
Nickel	ND	2.54	ng/m³ Air		ND				10	U
Selenium	0.178	0.0349	ng/m³ Air		0.174			1.94	10	
Thallium	0.00276	0.00229	ng/m³ Air		ND			58.2	10	
Vanadium	2.00	0.206	ng/m³ Air		2.00			0.0965	10	
Zinc	ND	299	ng/m³ Air		ND				10	U
Dilution Check (B4J2207-SRL2)		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Antimony	ND	0.161	ng/m³ Air		ND				10	SL, U
Arsenic	0.885	0.0391	ng/m³ Air		0.864			2.39	10	
Barium	15.0	4.47	ng/m³ Air		15.1			0.165	10	
Beryllium	0.0622	0.0134	ng/m³ Air		0.0574			8.05	10	
Cadmium	ND	0.309	ng/m³ Air		ND				10	U
Chromium	13.0	9.23	ng/m³ Air		12.6			3.62	10	
Cobalt	3.37	0.182	ng/m³ Air		3.28			2.83	10	
Copper	62.8	11.0	ng/m³ Air		61.5			2.09	10	
Lead	1.16	0.894	ng/m³ Air		1.21			3.65	10	
Manganese	72.7	7.89	ng/m³ Air		71.2			2.14	10	
Molybdenum	2.70	1.50	ng/m³ Air		2.51			7.54	10	
Nickel	9.28	2.72	ng/m³ Air		8.93			3.82	10	
Selenium	0.335	0.0374	ng/m³ Air		0.349			3.93	10	
Thallium	0.00576	0.00246	ng/m³ Air		0.00317			58.0	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Dilution Check (B4J2207-SRL2) Continued			**Source: 4102129-01**		Prepared & Analyzed: 10/22/24					
Vanadium	9.63	0.221	ng/m³ Air		9.32			3.28	10	
Zinc	ND	321	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
E	The concentration for this analyte is an estimated value above the calibration range of the instrument.
A-01	Greater than 4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/29/2024 and Shanna Vasser 10/30/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/10/2024 – 10/16/2024
Report No: 4102129

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for vanadium in MFL-FB01-101124-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

October 17 through October 23, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from October 17 through October 23, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 17 through October 23 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

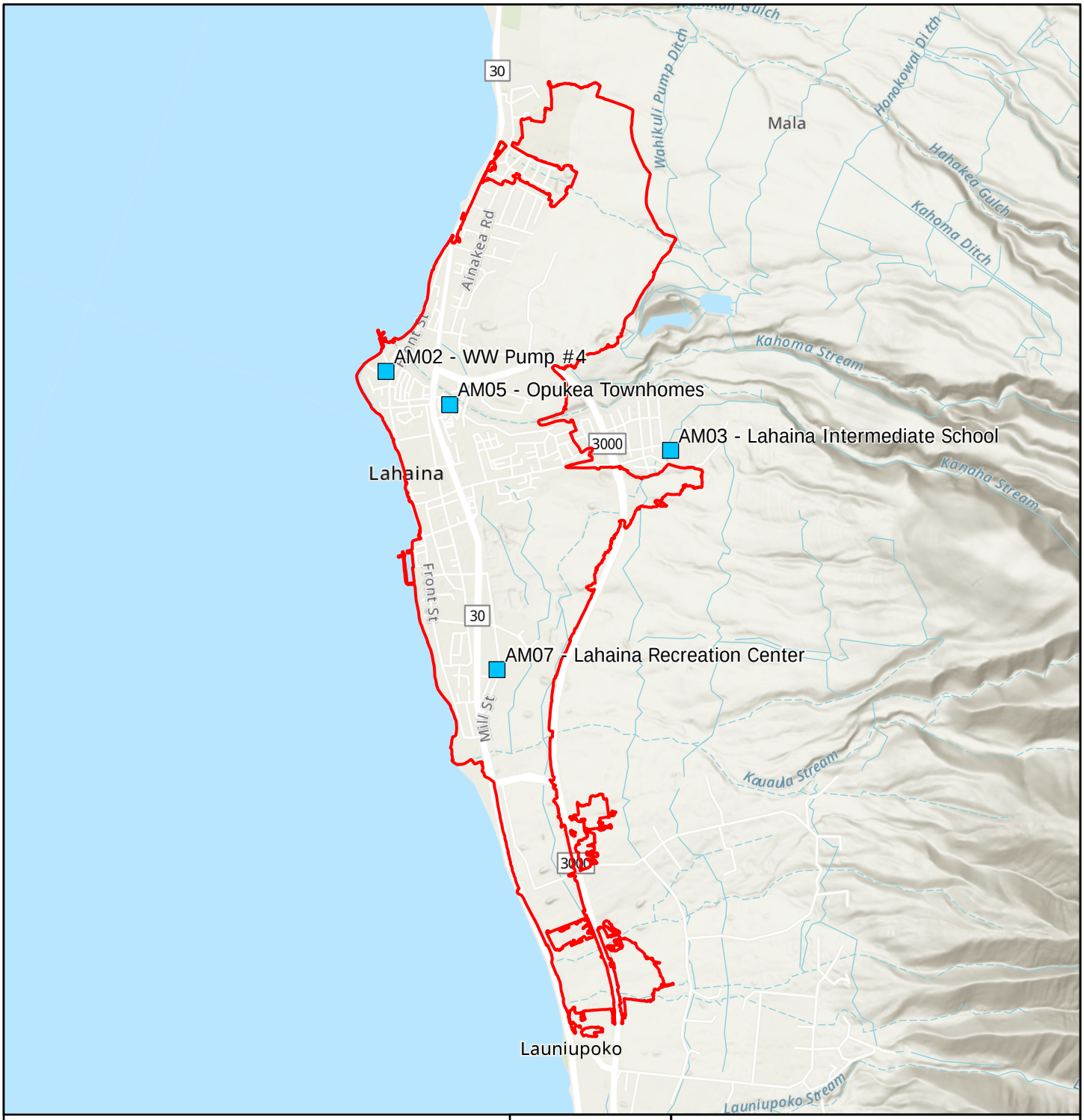
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 17 through October 23, 2024

Screening Level		TWA Results 150 (µg/m^3)
10/17/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	70
	Lahaina Recreation Center (AM-07)	8.1
10/18/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	75
	Lahaina Recreation Center (AM-07)	8.5
10/19/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	64
	Lahaina Recreation Center (AM-07)	7.1
10/20/2024	Opukea Townhomes (AM-05)	9.0
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	60
	Lahaina Recreation Center (AM-07)	6.4
10/21/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	5.8
	Lahaina Intermediate School (AM-03)	63
	Lahaina Recreation Center (AM-07)	6.2
10/22/2024	Opukea Townhomes (AM-05)	6.9
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	134
	Lahaina Recreation Center (AM-07)	6.3
10/23/2024	Opukea Townhomes (AM-05)	5.7
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	82
	Lahaina Recreation Center (AM-07)	6.4

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 17 through October 23, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000669	0.00859	0.0000319	ND	0.00468	0.00106	0.0552	0.00159	0.0327	0.00338	0.00252	0.000350	0.00000309	0.00352	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000215	0.000946	0.00871	0.0000309	ND	0.00486	0.00117	0.0272	0.000962	0.0299	0.00152	0.00277	0.000330	0.00000221	0.00346	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000589	0.000329	0.00503	0.0000352	ND	0.00401	0.000907	0.0733	0.000689	0.0222	0.00323	0.00235	0.000317	0.00000192	0.00244	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000100	0.000923	0.00731	0.0000421	ND	0.00762	0.00135	0.0202	0.000597	0.0402	0.00149	0.00438	0.000394	0.00000289	0.00356	ND
10/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000450	0.00440	0.0000125	ND	0.00266	0.000522	0.0456	0.000752	0.0124	0.00302	0.00147	0.000350	0.00000195	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000175	0.000410	0.00593	0.0000153	ND	0.00322	0.000710	0.0236	0.000701	0.0180	0.00157	0.00199	0.000368	0.00000195	0.00239	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000752	0.000240	0.00349	0.0000180	ND	0.00290	0.000462	0.0595	0.000550	0.0112	0.00268	0.00163	0.000348	0.00000172	0.00153	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000135	0.000443	0.00433	0.0000186	ND	0.00317	0.000636	0.0217	0.000448	0.0171	0.00164	0.00176	0.000367	0.00000205	0.00202	ND
10/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.000204	0.000910	0.00457	0.0000108	ND	0.00299	0.000396	0.0573	0.000854	0.0105	0.00341	0.00156	0.000310	0.00000154	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0003	0.000144	0.000241	0.00482	0.0000104	ND	0.00222	0.000340	0.0278	0.000474	0.00958	0.00239	0.00120	0.000293	0.00000133	0.00162	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000528	0.000235	0.00365	0.0000388	ND	0.00341	0.000650	0.0557	0.000357	0.0155	0.00271	0.00193	0.000346	0.00000166	0.00212	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000147	0.000258	0.00300	0.0000141	ND	0.00281	0.000495	0.0228	0.000338	0.0123	0.00164	0.00161	0.000313	0.00000145	0.00164	ND
10/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000411	0.00326	0.00000753	ND	0.00222	0.000278	0.0637	0.000884	0.00692	0.00367	0.000961	0.000217	0.00000116	0.000924	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000268	0.000237	0.00527	0.0000113	ND	0.00233	0.000407	0.0262	0.000607	0.0111	0.00164	0.00124	0.000238	0.00000129	0.00135	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000556	0.000139	0.00246	0.0000138	ND	0.00246	0.000294	0.0451	0.000237	0.00684	0.00297	0.00124	0.000230	0.00000110	0.000911	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000980	0.000239	0.00335	0.0000142	ND	0.00267	0.000463	0.0218	0.000323	0.0129	0.00142	0.00163	0.000256	0.00000125	0.00132	ND
10/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000313	0.00407	0.00000849	ND	0.00195	0.000298	0.0691	0.000816	0.00843	0.00309	0.00117	0.000215	0.00000119	0.00111	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000190	0.000305	0.00591	0.0000139	ND	0.00265	0.000565	0.0358	0.000678	0.0139	0.00183	0.00194	0.000234	0.00000111	0.00179	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000630	0.000150	0.00255	0.0000133	ND	0.00229	0.000287	0.0459	0.000267	0.00693	0.00252	0.00143	0.000214	0.000000808	0.000856	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000878	0.000445	0.00485	0.0000265	ND	0.00403	0.000949	0.0247	0.000373	0.0242	0.00146	0.00253	0.000301	0.00000151	0.00235	ND
10/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000149	0.000471	0.00537	0.0000149	ND	0.00274	0.000598	0.0755	0.00104	0.0148	0.00341	0.00210	0.000249	0.00000118	0.00195	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000178	0.000361	0.00765	0.0000193	ND	0.00360	0.000794	0.0324	0.000670	0.0186	0.00198	0.00259	0.000273	0.00000128	0.00258	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000645	0.000260	0.00364	0.0000253	ND	0.00241	0.000524	0.0514	0.000359	0.0123	0.00249	0.00169	0.000235	0.000000973	0.00158	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000961	0.000587	0.00674	0.0000442	ND	0.00543	0.00139	0.0219	0.000522	0.0374	0.00135	0.00365	0.000384	0.00000186	0.00361	ND
10/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000126	0.000314	0.00403	0.00000909	ND	ND	0.000363	0.0689	0.000912	0.00921	0.00307	0.00156	0.000174	0.000000827	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000155	0.000189	0.00399	0.00000928	ND	ND	0.000295	0.0380	0.000538	0.00837	0.00182	0.00114	0.000169	0.000000810	0.00110	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000787	0.000147	0.00318	0.0000170	ND	0.00199	0.000361	0.0490	0.000252	0.00879	0.00247	0.00151	0.000162	0.000000776	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000865	0.000485	0.00599	0.0000426	ND	0.00530	0.00131	0.0229	0.000396	0.0357	0.00145	0.00331	0.000322	0.00000182	0.00330	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000480	0.00549	0.0000250	NA	0.00377	0.000770	0.0499	0.000730	0.0204	0.00263	0.00223	0.000310	0.00000170	0.00229	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 17, through October 23, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/17/2024	AM-02	WW Pump Station #4	1.0	S	80	66	762.3
10/17/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	62	752.9
10/17/2024	AM-05	Opukea Townhomes	1.2	SE	81	62	761.8
10/17/2024	AM-07	Lahaina Recreational Center	1.5	SSE	81	67	761.6
10/18/2024	AM-02	WW Pump Station #4	0.9	S	81	70	762.3
10/18/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	67	752.9
10/18/2024	AM-05	Opukea Townhomes	1.2	SE	82	66	761.8
10/18/2024	AM-07	Lahaina Recreational Center	1.3	SE	82	71	761.6
10/19/2024	AM-02	WW Pump Station #4	0.9	SSE	81	67	763.0
10/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	753.6
10/19/2024	AM-05	Opukea Townhomes	1.3	SE	81	63	762.5
10/19/2024	AM-07	Lahaina Recreational Center	1.3	SE	81	67	762.3
10/20/2024	AM-02	WW Pump Station #4	1.0	SSE	80	65	761.7
10/20/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	752.4
10/20/2024	AM-05	Opukea Townhomes	1.2	SE	81	61	761.2
10/20/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	66	761.0
10/21/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	760.4
10/21/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	63	751.0
10/21/2024	AM-05	Opukea Townhomes	1.1	SE	80	62	759.9
10/21/2024	AM-07	Lahaina Recreational Center	1.5	ESE	80	66	759.7
10/22/2024	AM-02	WW Pump Station #4	1.0	SSE	79	69	760.2
10/22/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	66	750.9
10/22/2024	AM-05	Opukea Townhomes	1.3	ESE	80	64	759.7
10/22/2024	AM-07	Lahaina Recreational Center	1.4	ESE	80	70	759.6
10/23/2024	AM-02	WW Pump Station #4	0.9	SSE	79	71	760.9
10/23/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	69	751.5
10/23/2024	AM-05	Opukea Townhomes	1.1	SE	80	67	760.4
10/23/2024	AM-07	Lahaina Recreational Center	1.4	SE	80	71	760.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101724-AB**	**Sample Description:**	**DL267645**
EMSL Sample Number:	042421905-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7147.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0001 **Customer Sample:** MFL-AM05-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B6	None Detected									
A5	E4	None Detected									
A5	G7	None Detected									
A6	D8	None Detected									
A6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101724-AB**		**Sample Description:**	**DL267250**
EMSL Sample Number:	042421905-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6601.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0002 **Customer Sample:** MFL-AM02-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	F4	None Detected									
B1	G8	None Detected									
B1	J6	None Detected									
B2	C7	None Detected									
B2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101724-AB**	**Sample Description:**	**DL267236**
EMSL Sample Number:	042421905-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7177.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0003 **Customer Sample:** MFL-AM03-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	B6	None Detected									
B6	F8	None Detected									
B6	I6	None Detected									
B7	G3	None Detected									
B7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-101724-AB** **Sample Description:** **DL267275**

EMSL Sample Number:	042421905-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0004 **Customer Sample:** MFL-AM07-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G6	None Detected									
C1	E8	None Detected									
C1	A6	None Detected									
C2	H3	None Detected									
C2	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101724-AB** **Sample Description:** **DL264214**

EMSL Sample Number:	042421905-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0005 **Customer Sample:** MFL-FB01-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J3	None Detected									
C5	H1	None Detected									
C5	F4	None Detected									
C5	D5	None Detected									
C5	B7	None Detected									
C6	J2	None Detected									
C6	H5	None Detected									
C6	F1	None Detected									
C6	D4	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101824-AB**	**Sample Description:**	**DL267263**
EMSL Sample Number:	042421905-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7161.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0006 **Customer Sample:** MFL-AM05-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	D10	None Detected									
D1	F7	None Detected									
D1	H5	None Detected									
D2	C5	None Detected									
D2	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101824-AB**	**Sample Description:**	**DL267255**
EMSL Sample Number:	042421905-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7096.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0007 **Customer Sample:** MFL-AM02-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	J3	None Detected									
D6	G5	None Detected									
D6	B7	None Detected									
D7	H5	None Detected									
D7	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101824-AB**	**Sample Description:**	**DL264150**
EMSL Sample Number:	042421905-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7284.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0008 **Customer Sample:** MFL-AM03-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C8	None Detected									
E1	B6	None Detected									
E2	B6	None Detected									
E2	F4	None Detected									
E2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101824-AB**	**Sample Description:**	**DL264254**
EMSL Sample Number:	042421905-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7263.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0009 **Customer Sample:** MFL-AM07-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J6	None Detected									
E5	H9	None Detected									
E6	B7	None Detected									
E6	E5	None Detected									
E6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101824-AB** **Sample Description: DL264208**

EMSL Sample Number:	042421905-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0010 **Customer Sample:** MFL-FB01-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A5	None Detected									
F1	C4	None Detected									
F1	E1	None Detected									
F1	G6	None Detected									
F1	I1	None Detected									
F2	A5	None Detected									
F2	C7	None Detected									
F2	F8	None Detected									
F2	H1	None Detected									
F2	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-101824-AB** **Sample Description:** **DL264331**

EMSL Sample Number:	042421905-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0011 **Customer Sample:** MFL-LB01-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A2	None Detected									
F5	C4	None Detected									
F5	E2	None Detected									
F5	G4	None Detected									
F5	I3	None Detected									
F6	J8	None Detected									
F6	H4	None Detected									
F6	F7	None Detected									
F6	D4	None Detected									
F6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101924-AB**	**Sample Description:**	**DL264231**
EMSL Sample Number:	042421905-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7132.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0012 **Customer Sample:** MFL-AM05-101924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A2	None Detected									
G1	F7	None Detected									
G1	H9	None Detected									
G2	B9	None Detected									
G2	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101924-AB** **Sample Description: Dl264195**

EMSL Sample Number:	042421905-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7061.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.1300
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0001**		**Limit of Detection (Structures/cc):**	**0.0003**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Total Amphibole	**ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Actinolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Amosite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Anthophyllite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Crocidolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Tremolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Other Minerals	-	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total All Structures	**-**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Actinolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Amosite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Anthophyllite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Crocidolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Tremolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Other Minerals	-	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total All Structures (PCMe)	**-**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0013 **Customer Sample:** MFL-AM02-101924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J9	None Detected									
G5	F4	None Detected									
G5	E7	None Detected									
G6	C4	None Detected									
G6	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101924-AB**	**Sample Description:**	**DL264172**
EMSL Sample Number:	042421905-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7158.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0014 **Customer Sample:** MFL-AM03-101924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A10	None Detected									
H1	C7	None Detected									
H1	F3	None Detected									
H2	G4	None Detected									
H2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101924-AB**	**Sample Description:**	**DL264216**
EMSL Sample Number:	042421905-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7239.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0015 **Customer Sample:** MFL-AM07-101924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J9	None Detected									
H5	H6	None Detected									
H5	C6	None Detected									
H6	I6	None Detected									
H6	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101924-AB** **Sample Description:** **DL264180**

EMSL Sample Number:	042421905-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0016 **Customer Sample:** MFL-FB01-101924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J3	None Detected									
I1	H1	None Detected									
I1	F4	None Detected									
I1	D3	None Detected									
I1	B5	None Detected									
I2	J2	None Detected									
I2	H2	None Detected									
I2	F7	None Detected									
I2	C4	None Detected									
I2	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102024-AB**	**Sample Description:**	**DL264209**
EMSL Sample Number:	042421905-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7180.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0017 **Customer Sample:** MFL-AM05-102024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A8	None Detected									
I5	E8	None Detected									
I5	G10	None Detected									
I6	D8	None Detected									
I6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102024-AB**	**Sample Description:**	**DL264191**
EMSL Sample Number:	042421905-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6997.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0018 **Customer Sample:** MFL-AM02-102024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I2	None Detected									
J1	G5	None Detected									
J1	D3	None Detected									
J2	B8	None Detected									
J2	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102024-AB**	**Sample Description:**	**DL264151**
EMSL Sample Number:	042421905-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7141.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0019 **Customer Sample:** MFL-AM03-102024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J6	None Detected									
J5	G3	None Detected									
J5	D4	None Detected									
J6	A8	None Detected									
J6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102024-AB**	**Sample Description:**	**DL264188**
EMSL Sample Number:	042421905-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7217.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0020 **Customer Sample:** MFL-AM07-102024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J4	None Detected									
K1	G5	None Detected									
K1	B7	None Detected									
K2	I9	None Detected									
K2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102024-AB** **Sample Description:** **DL264168**

EMSL Sample Number:	042421905-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0021 **Customer Sample:** MFL-FB01-102024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A10	None Detected									
K5	C8	None Detected									
K5	E9	None Detected									
K5	G10	None Detected									
K5	I7	None Detected									
K6	J1	None Detected									
K6	H3	None Detected									
K6	F1	None Detected									
K6	D4	None Detected									
K6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042421905-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042421905
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J7	None Detected									
A1	H9	None Detected									
A1	F10	None Detected									
A1	D8	None Detected									
A1	B7	None Detected									
A2	J10	None Detected									
A2	H8	None Detected									
A2	F10	None Detected									
A2	D6	None Detected									
A2	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042421905

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042421905

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	21

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED 24 OCT 23 AM 11:15 EMSL CINNAMINSON NJ

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-101724-AB	DL267645	7,147.376	10/17/24 1058
MFL-AM02-101724-AB	DL267250	6,601.621	10/17/24 1114
MFL-AM03-101724-AB	DL267236	7,177.385	10/17/24 1255
MFL-AM07-101724-AB	DL267275	7,230.960	10/17/24 1324
MFL-FB01-101724-AB	DL264214	0	10/17/24 1200
MFL-AM05-101824-AB	DL267263	7,161.770	10/18/24 1101
MFL-AM02-101824-AB	DL267255	7,096.242	10/18/24 1115
MFL-AM03-101824-AB	DL264150	7,284.528	10/18/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 10/21/24 1100	Received by: FX
Relinquished by:		Date/Time:	Received by:

Date/Time 10/23/24 930

Controlled Document - COC-05 Asbestos R16 10/29/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042421905

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421905

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-101824-AB	DL264254	7,263.001	10/18/24 1322
MFL-FB01-101824-AB	DL264208	0	10/18/24 1200
MFL-LB01-101824-AB	DL264331	0	10/18/24 1200
MFL-AM05-101924-AB	DL264231	7,132.~~082~~032 (IBA)	10/19/24 1055
MFL-AM02-101924-AB	DL264195	7,061.179	10/19/24 1111
MFL-AM03-101924-AB	DL264172	7,158.005	10/19/24 1259
MFL-AM07-101924-AB	DL264216	7,239.816	10/19/24 1325
MFL-FB01-101924-AB	DL264180	0	10/19/24 1200
MFL-AM05-102024-AB	DL264209	7,180.365	10/20/24 1055
MFL-AM02-102024-AB	DL264191	6,997.138	10/20/24 1113
MFL-AM03-102024-AB	DL264151	7,141.320	10/20/24 1258
MFL-AM07-102024-AB	DL264188	7,216.994	10/20/24 1319
MFL-FB01-102024-AB	DL264168	0	10/20/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 OCT 23 AM 11:16

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/21/24 1100	Received by:	Date/Time 10/23/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

(21) BJ

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/30/2024 and Shanna Vasser 10/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/17/2024 – 10/20/2024
Report No: 42421905

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102124-AB**	**Sample Description:**	**DL264176**
EMSL Sample Number:	042422232-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7190.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0001 **Customer Sample:** MFL-AM05-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A5	None Detected									
A5	D4	None Detected									
A5	G6	None Detected									
A6	B10	None Detected									
A6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102124-AB**	**Sample Description:**	**DL264185**
EMSL Sample Number:	042422232-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7075.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0002 **Customer Sample:** MFL-AM02-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	G6	None Detected									
B1	D3	None Detected									
B1	A4	None Detected									
B2	H3	None Detected									
B2	C1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/28/2024 09:00 AM
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Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102124-AB**	**Sample Description:**	**DL264184**
EMSL Sample Number:	042422232-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7202.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0003 **Customer Sample:** MFL-AM03-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A7	None Detected									
B5	D3	None Detected									
B5	I4	None Detected									
B6	I5	None Detected									
B6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102124-AB**	**Sample Description:**	**DL264186**
EMSL Sample Number:	042422232-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7295.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0004 **Customer Sample:** MFL-AM07-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A5	None Detected									
C1	D8	None Detected									
C1	F7	None Detected									
C2	C9	None Detected									
C2	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102124-AB** **Sample Description: DL264177**

EMSL Sample Number:	042422232-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0005 **Customer Sample:** MFL-FB01-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C7	J8	None Detected									
C7	H6	None Detected									
C7	F3	None Detected									
C7	D5	None Detected									
C7	B8	None Detected									
C8	J2	None Detected									
C8	H3	None Detected									
C8	G4	None Detected									
C8	D2	None Detected									
C8	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-102224-AB** **Sample Description: DL264171**

EMSL Sample Number:	042422232-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0006 **Customer Sample:** MFL-AM05-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J6	None Detected									
D2	G3	None Detected									
D2	D6	None Detected									
D3	G5	None Detected									
D3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102224-AB**	**Sample Description:**	**DL264169**
EMSL Sample Number:	042422232-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7111.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0007 **Customer Sample:** MFL-AM02-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	J7	None Detected									
D6	H4	None Detected									
D6	C6	None Detected									
D7	B5	None Detected									
D7	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102224-AB**	**Sample Description:**	**DL264192**
EMSL Sample Number:	042422232-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7072.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0008 **Customer Sample:** MFL-AM03-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C6	None Detected									
E1	E8	None Detected									
E1	I9	None Detected									
E2	A9	None Detected									
E2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102224-AB**	**Sample Description:**	**DL264198**
EMSL Sample Number:	042422232-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7100.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0009 **Customer Sample:** MFL-AM07-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J5	None Detected									
E5	G9	None Detected									
E5	D8	None Detected									
E6	H7	None Detected									
E6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102224-AB** **Sample Description: DL264194**

EMSL Sample Number:	042422232-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0010 **Customer Sample:** MFL-FB01-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A4	None Detected									
F2	C6	None Detected									
F2	E3	None Detected									
F2	G10	None Detected									
F2	I7	None Detected									
F3	A4	None Detected									
F3	C4	None Detected									
F3	E7	None Detected									
F3	G5	None Detected									
F3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102324-AB**	**Sample Description:**	**DL264179**
EMSL Sample Number:	042422232-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7175.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0011 **Customer Sample:** MFL-AM05-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I2	None Detected									
F5	G6	None Detected									
F5	E9	None Detected									
F6	H5	None Detected									
F6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102324-AB**	**Sample Description:**	**DL264166**
EMSL Sample Number:	042422232-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7141.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0012 **Customer Sample:** MFL-AM02-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I1	None Detected									
G1	F2	None Detected									
G1	D5	None Detected									
G2	B6	None Detected									
G2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102324-AB**	**Sample Description:**	**Dl264181**
EMSL Sample Number:	042422232-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7237.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0013 **Customer Sample:** MFL-AM03-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B10	None Detected									
G5	E8	None Detected									
G5	I6	None Detected									
G6	F8	None Detected									
G6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422232
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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-102324-AB** **Sample Description: DL264183**

EMSL Sample Number:	042422232-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0014 **Customer Sample:** MFL-AM07-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I2	None Detected									
H1	E3	None Detected									
H1	B5	None Detected									
H2	C6	None Detected									
H2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102324-AB** **Sample Description: DL264163**

EMSL Sample Number:	042422232-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0015 **Customer Sample:** MFL-FB01-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	A6	None Detected									
H6	C5	None Detected									
H6	E5	None Detected									
H6	G6	None Detected									
H6	I5	None Detected									
H8	J8	None Detected									
H8	H5	None Detected									
H8	F6	None Detected									
H8	D2	None Detected									
H8	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042422232-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422232
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	G9	None Detected									
A1	F7	None Detected									
A1	G4	None Detected									
A1	D4	None Detected									
A1	B6	None Detected									
A2	I7	None Detected									
A2	H5	None Detected									
A2	E4	None Detected									
A2	C3	None Detected									
A2	A1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042422232

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422232

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	Country: USA	City, State, Zip:	Country:
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaina Epstein	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

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*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-102124-AB	DL264176	7,190.107	10/21/24 1056
MFL-AM02-102124-AB	DL264185	7,075.369	10/21/24 1118
MFL-AM03-102124-AB	DL264184	7,202.627	10/21/24 1301
MFL-AM07-102124-AB	DL264186	7,295.366	10/21/24 1323
MFL-FB01-102124-AB	DL264177	0	10/21/24 1200
MFL-AM05-102224-AB	DL264171	7,191.072	10/22/24 1101
MFL-AM02-102224-AB	DL264169	7,111.538	10/22/24 1115
MFL-AM03-102224-AB	DL264192	7,072.208	10/22/24 1256

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15 CK

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 10/24/24 1100	Received by: Angie O'Neal FX	Date/Time 10/28/24 9
Relinquished by:		Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042422232

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422232

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-102224-AB	DL264198	7,100.193	10/22/24 1318
MFL-FB01-102224-AB	DL264194	0	10/22/24 1200
MFL-AM05-102324-AB	DL264179	7,175.820	10/23/24 1105
MFL-AM02-102324-AB	DL264166	7,141.085	10/23/24 1122
MFL-AM03-102324-AB	DL264181	7,237.685	10/23/24 1256
MFL-AM07-102324-AB	DL264183	7,229.028	10/23/24 1317
MFL-FB01-102324-AB	DL264163	0	10/23/24 1200

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EMSL
CINNAMINSON, NJ
2024 OCT 28 A 10:38

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 10/29/24 1100	Received by: Angie ONeill FX	Date/Time: 10/28/24 2
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/05/2024 and Shanna Vasser 11/07/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/21/2024 – 10/23/2024
Report No: 42422232

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

November 06, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 10/28/24 11:42.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-101724-HM	4102834-01	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM02-101724-HM	4102834-02	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM03-101724-HM	4102834-03	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM07-101724-HM	4102834-04	Air	10/17/24 23:59	10/28/24 11:42
MFL-FB01-101724-HM	4102834-05	Air	10/17/24 00:00	10/28/24 11:42
MFL-AM05-101824-HM	4102834-06	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM02-101824-HM	4102834-07	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM03-101824-HM	4102834-08	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM07-101824-HM	4102834-09	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM05-101924-HM	4102834-10	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM02-101924-HM	4102834-11	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM03-101924-HM	4102834-12	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM07-101924-HM	4102834-13	Air	10/19/24 23:59	10/28/24 11:42
MFL-FB01-101924-HM	4102834-14	Air	10/19/24 00:00	10/28/24 11:42
MFL-AM05-102024-HM	4102834-15	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM02-102024-HM	4102834-16	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM03-102024-HM	4102834-17	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM07-102024-HM	4102834-18	Air	10/20/24 23:59	10/28/24 11:42
MFL-LB01-102024-HM	4102834-19	Air	10/20/24 00:00	10/28/24 11:42
MFL-AM05-102124-HM	4102834-20	Air	10/21/24 23:59	10/28/24 11:42
MFL-AM02-102124-HM	4102834-21	Air	10/21/24 23:59	10/28/24 11:42

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-102124-HM	4102834-22	Air	10/21/24 23:59	10/28/24 11:42
MFL-AM07-102124-HM	4102834-23	Air	10/21/24 23:59	10/28/24 11:42
MFL-FB01-102124-HM	4102834-24	Air	10/21/24 00:00	10/28/24 11:42
MFL-AM05-102224-HM	4102834-25	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM02-102224-HM	4102834-26	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM03-102224-HM	4102834-27	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM07-102224-HM	4102834-28	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM05-102324-HM	4102834-29	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM02-102324-HM	4102834-30	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM03-102324-HM	4102834-31	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM07-102324-HM	4102834-32	Air	10/23/24 23:59	10/28/24 11:42
MFL-FB01-102324-HM	4102834-33	Air	10/23/24 00:00	10/28/24 11:42

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101724-HM
Matrix: Air
Lab ID: 4102834-01
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 04:23

Comments: Q9537821 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.669**		**0.00822**
Barium	**7440-39-3**	**8.59**		**0.939**
Beryllium	**7440-41-7**	**0.0319**		**0.00281**
Cadmium	7440-43-9	0.0360	U	0.0650
Chromium	**7440-47-3**	**4.68**		**1.94**
Cobalt	**7440-48-4**	**1.06**		**0.0382**
Copper	**7440-50-8**	**55.2**		**2.31**
Lead	**7439-92-1**	**1.59**		**0.188**
Manganese	**7439-96-5**	**32.7**		**1.66**
Molybdenum	**7439-98-7**	**3.38**		**0.315**
Nickel	**7440-02-0**	**2.52**	GC-BS	**0.572**
Selenium	**7782-49-2**	**0.350**		**0.00786**
Thallium	**7440-28-0**	**0.00309**	QB-04	**5.17E-4**
Vanadium	**7440-62-2**	**3.52**		**0.0464**
Zinc	7440-66-6	23.9	U	67.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101724-HM
Matrix: Air
Lab ID: 4102834-02
Sample Volume: 2097.016 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:02

Comments: Q9537822 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.215**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.946**		**0.00727**
Barium	**7440-39-3**	**8.71**		**0.830**
Beryllium	**7440-41-7**	**0.0309**		**0.00248**
Cadmium	7440-43-9	0.0445	U	0.0575
Chromium	**7440-47-3**	**4.86**		**1.71**
Cobalt	**7440-48-4**	**1.17**		**0.0338**
Copper	**7440-50-8**	**27.2**		**2.04**
Lead	**7439-92-1**	**0.962**		**0.166**
Manganese	**7439-96-5**	**29.9**		**1.47**
Molybdenum	**7439-98-7**	**1.52**		**0.279**
Nickel	**7440-02-0**	**2.77**	GC-BS	**0.506**
Selenium	**7782-49-2**	**0.330**		**0.00695**
Thallium	**7440-28-0**	**0.00221**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**3.46**		**0.0410**
Zinc	7440-66-6	18.4	U	59.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101724-HM
Matrix: Air
Lab ID: 4102834-03
Sample Volume: 1950.295 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:19

Comments: Q9537823 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0589**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.329**		**0.00782**
Barium	**7440-39-3**	**5.03**		**0.893**
Beryllium	**7440-41-7**	**0.0352**		**0.00267**
Cadmium	7440-43-9	0.0164	U	0.0618
Chromium	**7440-47-3**	**4.01**		**1.84**
Cobalt	**7440-48-4**	**0.907**		**0.0364**
Copper	**7440-50-8**	**73.3**		**2.19**
Lead	**7439-92-1**	**0.689**		**0.179**
Manganese	**7439-96-5**	**22.2**		**1.58**
Molybdenum	**7439-98-7**	**3.23**		**0.299**
Nickel	**7440-02-0**	**2.35**	GC-BS	**0.544**
Selenium	**7782-49-2**	**0.317**		**0.00747**
Thallium	**7440-28-0**	**0.00192**	QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**2.44**		**0.0441**
Zinc	7440-66-6	15.3	U	64.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101724-HM
Matrix: Air
Lab ID: 4102834-04
Sample Volume: 1851.674 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:34

Comments: Q9537824 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.923**		**0.00823**
Barium	**7440-39-3**	**7.31**		**0.940**
Beryllium	**7440-41-7**	**0.0421**		**0.00281**
Cadmium	7440-43-9	0.0305	U	0.0651
Chromium	**7440-47-3**	**7.62**		**1.94**
Cobalt	**7440-48-4**	**1.35**		**0.0383**
Copper	**7440-50-8**	**20.2**		**2.31**
Lead	**7439-92-1**	**0.597**		**0.188**
Manganese	**7439-96-5**	**40.2**		**1.66**
Molybdenum	**7439-98-7**	**1.49**		**0.315**
Nickel	**7440-02-0**	**4.38**	GC-BS	**0.573**
Selenium	**7782-49-2**	**0.394**		**0.00787**
Thallium	**7440-28-0**	**0.00289**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**3.56**		**0.0465**
Zinc	7440-66-6	20.2	U	67.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101724-HM
Matrix: Air
Lab ID: 4102834-05
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/17/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:50

Comments: Q9537830 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0134	U, SL	0.0339
Arsenic	**7440-38-2**	**0.0157**	FB-01	**0.00822**
Barium	**7440-39-3**	**1.62**	FB-01	**0.939**
Beryllium	7440-41-7	0.00242	U	0.00281
Cadmium	7440-43-9	0.00482	U	0.0650
Chromium	7440-47-3	1.32	U	1.94
Cobalt	**7440-48-4**	**0.0586**	FB-01	**0.0382**
Copper	**7440-50-8**	**6.05**	FB-01	**2.31**
Lead	**7439-92-1**	**0.217**	FB-01	**0.188**
Manganese	7439-96-5	0.826	U	1.66
Molybdenum	7439-98-7	0.226	U	0.315
Nickel	7440-02-0	0.388	U, GC-BS	0.572
Selenium	**7782-49-2**	**0.00837**	FB-01	**0.00786**
Thallium	7440-28-0	1.93E-4	U, QB-04	5.17E-4
Vanadium	**7440-62-2**	**0.0723**		**0.0464**
Zinc	7440-66-6	18.3	U	67.4

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101824-HM
Matrix: Air
Lab ID: 4102834-06
Sample Volume: 1856.917 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:04

Comments: Q9537825 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.450**		**0.00821**
Barium	**7440-39-3**	**4.40**		**0.938**
Beryllium	**7440-41-7**	**0.0125**		**0.00280**
Cadmium	7440-43-9	0.0266	U	0.0649
Chromium	**7440-47-3**	**2.66**		**1.94**
Cobalt	**7440-48-4**	**0.522**		**0.0382**
Copper	**7440-50-8**	**45.6**		**2.30**
Lead	**7439-92-1**	**0.752**		**0.188**
Manganese	**7439-96-5**	**12.4**		**1.66**
Molybdenum	**7439-98-7**	**3.02**		**0.315**
Nickel	**7440-02-0**	**1.47**	GC-BS	**0.571**
Selenium	**7782-49-2**	**0.350**		**0.00785**
Thallium	**7440-28-0**	**0.00195**	QB-04	**5.16E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0464**
Zinc	7440-66-6	16.2	U	67.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101824-HM
Matrix: Air
Lab ID: 4102834-07
Sample Volume: 2088.267 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:19

Comments: Q9537826 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.175**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.410**		**0.00730**
Barium	**7440-39-3**	**5.93**		**0.834**
Beryllium	**7440-41-7**	**0.0153**		**0.00249**
Cadmium	7440-43-9	0.0187	U	0.0577
Chromium	**7440-47-3**	**3.22**		**1.72**
Cobalt	**7440-48-4**	**0.710**		**0.0340**
Copper	**7440-50-8**	**23.6**		**2.05**
Lead	**7439-92-1**	**0.701**		**0.167**
Manganese	**7439-96-5**	**18.0**		**1.47**
Molybdenum	**7439-98-7**	**1.57**		**0.280**
Nickel	**7440-02-0**	**1.99**	GC-BS	**0.508**
Selenium	**7782-49-2**	**0.368**		**0.00698**
Thallium	**7440-28-0**	**0.00195**	QB-04	**4.59E-4**
Vanadium	**7440-62-2**	**2.39**		**0.0412**
Zinc	7440-66-6	17.2	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101824-HM
Matrix: Air
Lab ID: 4102834-08
Sample Volume: 1998.016 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:34

Comments: Q9537828 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0752**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.240**		**0.00763**
Barium	**7440-39-3**	**3.49**		**0.871**
Beryllium	**7440-41-7**	**0.0180**		**0.00261**
Cadmium	7440-43-9	0.0360	U	0.0603
Chromium	**7440-47-3**	**2.90**		**1.80**
Cobalt	**7440-48-4**	**0.462**		**0.0355**
Copper	**7440-50-8**	**59.5**		**2.14**
Lead	**7439-92-1**	**0.550**		**0.174**
Manganese	**7439-96-5**	**11.2**		**1.54**
Molybdenum	**7439-98-7**	**2.68**		**0.292**
Nickel	**7440-02-0**	**1.63**	GC-BS	**0.531**
Selenium	**7782-49-2**	**0.348**		**0.00730**
Thallium	**7440-28-0**	**0.00172**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0431**
Zinc	7440-66-6	14.5	U	62.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101824-HM
Matrix: Air
Lab ID: 4102834-09
Sample Volume: 1839.325 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/29/24 21:08

Comments: Q9537832 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.443**		**0.00829**
Barium	**7440-39-3**	**4.33**		**0.946**
Beryllium	**7440-41-7**	**0.0186**		**0.00283**
Cadmium	7440-43-9	0.0344	U	0.0655
Chromium	**7440-47-3**	**3.17**		**1.95**
Cobalt	**7440-48-4**	**0.636**		**0.0386**
Copper	**7440-50-8**	**21.7**		**2.33**
Lead	**7439-92-1**	**0.448**		**0.189**
Manganese	**7439-96-5**	**17.1**		**1.67**
Molybdenum	**7439-98-7**	**1.64**		**0.318**
Nickel	**7440-02-0**	**1.76**	GC-BS, QM-07	**0.577**
Selenium	**7782-49-2**	**0.367**		**0.00793**
Thallium	**7440-28-0**	**0.00205**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**2.02**		**0.0468**
Zinc	7440-66-6	13.1	U	67.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101924-HM
Matrix: Air
Lab ID: 4102834-10
Sample Volume: 1848.382 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:48

Comments: Q9537835 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.204**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.910**		**0.00825**
Barium	**7440-39-3**	**4.57**		**0.942**
Beryllium	**7440-41-7**	**0.0108**		**0.00282**
Cadmium	7440-43-9	0.0290	U	0.0652
Chromium	**7440-47-3**	**2.99**		**1.95**
Cobalt	**7440-48-4**	**0.396**		**0.0384**
Copper	**7440-50-8**	**57.3**		**2.32**
Lead	**7439-92-1**	**0.854**		**0.188**
Manganese	**7439-96-5**	**10.5**		**1.66**
Molybdenum	**7439-98-7**	**3.41**		**0.316**
Nickel	**7440-02-0**	**1.56**	GC-BS	**0.574**
Selenium	**7782-49-2**	**0.310**		**0.00789**
Thallium	**7440-28-0**	**0.00154**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0466**
Zinc	7440-66-6	21.2	U	67.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101924-HM
Matrix: Air
Lab ID: 4102834-11
Sample Volume: 2068.708 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:16

Comments: Q9537837 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.241**		**0.00737**
Barium	**7440-39-3**	**4.82**		**0.842**
Beryllium	**7440-41-7**	**0.0104**		**0.00252**
Cadmium	7440-43-9	0.0171	U	0.0583
Chromium	**7440-47-3**	**2.22**		**1.74**
Cobalt	**7440-48-4**	**0.340**		**0.0343**
Copper	**7440-50-8**	**27.8**		**2.07**
Lead	**7439-92-1**	**0.474**		**0.168**
Manganese	**7439-96-5**	**9.58**		**1.49**
Molybdenum	**7439-98-7**	**2.39**		**0.282**
Nickel	**7440-02-0**	**1.20**	GC-BS	**0.513**
Selenium	**7782-49-2**	**0.293**		**0.00705**
Thallium	**7440-28-0**	**0.00133**	QB-04	**4.63E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0416**
Zinc	7440-66-6	13.3	U	60.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101924-HM
Matrix: Air
Lab ID: 4102834-12
Sample Volume: 2050.058 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:34

Comments: Q9537838 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0528**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.235**		**0.00744**
Barium	**7440-39-3**	**3.65**		**0.849**
Beryllium	**7440-41-7**	**0.0388**		**0.00254**
Cadmium	7440-43-9	0.0197	U	0.0588
Chromium	**7440-47-3**	**3.41**		**1.75**
Cobalt	**7440-48-4**	**0.650**		**0.0346**
Copper	**7440-50-8**	**55.7**		**2.09**
Lead	**7439-92-1**	**0.357**		**0.170**
Manganese	**7439-96-5**	**15.5**		**1.50**
Molybdenum	**7439-98-7**	**2.71**		**0.285**
Nickel	**7440-02-0**	**1.93**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.346**		**0.00711**
Thallium	**7440-28-0**	**0.00166**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0420**
Zinc	7440-66-6	11.7	U	61.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101924-HM
Matrix: Air
Lab ID: 4102834-13
Sample Volume: 1824.793 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:48

Comments: Q9537839 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.147**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.258**		**0.00835**
Barium	**7440-39-3**	**3.00**		**0.954**
Beryllium	**7440-41-7**	**0.0141**		**0.00285**
Cadmium	7440-43-9	0.0227	U	0.0661
Chromium	**7440-47-3**	**2.81**		**1.97**
Cobalt	**7440-48-4**	**0.495**		**0.0389**
Copper	**7440-50-8**	**22.8**		**2.34**
Lead	**7439-92-1**	**0.338**		**0.191**
Manganese	**7439-96-5**	**12.3**		**1.69**
Molybdenum	**7439-98-7**	**1.64**		**0.320**
Nickel	**7440-02-0**	**1.61**	GC-BS	**0.581**
Selenium	**7782-49-2**	**0.313**		**0.00799**
Thallium	**7440-28-0**	**0.00145**	QB-04	**5.25E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0472**
Zinc	7440-66-6	12.6	U	68.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101924-HM
Matrix: Air
Lab ID: 4102834-14
Sample Volume: 1848.382 m³
Filter ID:
Sampled: 10/19/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:03

Comments: Q9537845 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0385**	FB-01, SL	**0.0340**
Arsenic	**7440-38-2**	**0.0157**	FB-01	**0.00825**
Barium	7440-39-3	0.737	U	0.942
Beryllium	7440-41-7	0.00120	U	0.00282
Cadmium	7440-43-9	0.00565	U	0.0652
Chromium	7440-47-3	1.55	U	1.95
Cobalt	**7440-48-4**	**0.0397**	FB-01	**0.0384**
Copper	7440-50-8	1.11	U	2.32
Lead	7439-92-1	0.0694	U	0.188
Manganese	7439-96-5	0.568	U	1.66
Molybdenum	7439-98-7	0.221	U	0.316
Nickel	7440-02-0	0.477	GC-BS, U	0.574
Selenium	**7782-49-2**	**0.00837**	FB-01	**0.00789**
Thallium	7440-28-0	1.94E-4	QB-04, U	5.18E-4
Vanadium	7440-62-2	0.0436	U	0.0466
Zinc	7440-66-6	9.27	U	67.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102024-HM
Matrix: Air
Lab ID: 4102834-15
Sample Volume: 1894.655 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:18

Comments: Q9537840 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.411**		**0.00805**
Barium	**7440-39-3**	**3.26**		**0.919**
Beryllium	**7440-41-7**	**0.00753**		**0.00275**
Cadmium	7440-43-9	0.0184	U	0.0636
Chromium	**7440-47-3**	**2.22**		**1.90**
Cobalt	**7440-48-4**	**0.278**		**0.0374**
Copper	**7440-50-8**	**63.7**		**2.26**
Lead	**7439-92-1**	**0.884**		**0.184**
Manganese	**7439-96-5**	**6.92**		**1.62**
Molybdenum	**7439-98-7**	**3.67**		**0.308**
Nickel	**7440-02-0**	**0.961**	GC-BS	**0.560**
Selenium	**7782-49-2**	**0.217**		**0.00769**
Thallium	**7440-28-0**	**0.00116**	QB-04	**5.06E-4**
Vanadium	**7440-62-2**	**0.924**		**0.0454**
Zinc	7440-66-6	14.8	U	66.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102024-HM
Matrix: Air
Lab ID: 4102834-16
Sample Volume: 2053.46 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:33

Comments: Q9537842 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.268**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.237**		**0.00742**
Barium	**7440-39-3**	**5.27**		**0.848**
Beryllium	**7440-41-7**	**0.0113**		**0.00254**
Cadmium	7440-43-9	0.0168	U	0.0587
Chromium	**7440-47-3**	**2.33**		**1.75**
Cobalt	**7440-48-4**	**0.407**		**0.0345**
Copper	**7440-50-8**	**26.2**		**2.08**
Lead	**7439-92-1**	**0.607**		**0.170**
Manganese	**7439-96-5**	**11.1**		**1.50**
Molybdenum	**7439-98-7**	**1.64**		**0.284**
Nickel	**7440-02-0**	**1.24**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.238**		**0.00710**
Thallium	**7440-28-0**	**0.00129**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0419**
Zinc	7440-66-6	13.7	U	60.9

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102024-HM
Matrix: Air
Lab ID: 4102834-17
Sample Volume: 1993.833 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:48

Comments: Q8529445 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0556**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.139**		**0.00765**
Barium	**7440-39-3**	**2.46**		**0.873**
Beryllium	**7440-41-7**	**0.0138**		**0.00261**
Cadmium	7440-43-9	0.0106	U	0.0605
Chromium	**7440-47-3**	**2.46**		**1.80**
Cobalt	**7440-48-4**	**0.294**		**0.0356**
Copper	**7440-50-8**	**45.1**		**2.15**
Lead	**7439-92-1**	**0.237**		**0.175**
Manganese	**7439-96-5**	**6.84**		**1.54**
Molybdenum	**7439-98-7**	**2.97**		**0.293**
Nickel	**7440-02-0**	**1.24**	GC-BS	**0.532**
Selenium	**7782-49-2**	**0.230**		**0.00731**
Thallium	**7440-28-0**	**0.00110**	QB-04	**4.81E-4**
Vanadium	**7440-62-2**	**0.911**		**0.0432**
Zinc	7440-66-6	8.32	U	62.7

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102024-HM
Matrix: Air
Lab ID: 4102834-18
Sample Volume: 1811.084 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 10:01

Comments: Q8529443 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.239**		**0.00842**
Barium	**7440-39-3**	**3.35**		**0.961**
Beryllium	**7440-41-7**	**0.0142**		**0.00287**
Cadmium	7440-43-9	0.0145	U	0.0666
Chromium	**7440-47-3**	**2.67**		**1.99**
Cobalt	**7440-48-4**	**0.463**		**0.0392**
Copper	**7440-50-8**	**21.8**		**2.36**
Lead	**7439-92-1**	**0.323**		**0.192**
Manganese	**7439-96-5**	**12.9**		**1.70**
Molybdenum	**7439-98-7**	**1.42**		**0.323**
Nickel	**7440-02-0**	**1.63**	GC-BS	**0.586**
Selenium	**7782-49-2**	**0.256**		**0.00805**
Thallium	**7440-28-0**	**0.00125**	QB-04	**5.29E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0475**
Zinc	7440-66-6	9.56	U	69.0

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-102024-HM
Matrix: Air
Lab ID: 4102834-19
Sample Volume: 1894.655 m³
Filter ID:
Sampled: 10/20/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 10:30

Comments: Q8529440 Lot Blank Box#453 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0225	SL, U	0.0331
Arsenic	**7440-38-2**	**0.00964**	LB	**0.00805**
Barium	7440-39-3	0.858	U	0.919
Beryllium	7440-41-7	3.80E-4	U	0.00275
Cadmium	7440-43-9	8.73E-4	U	0.0636
Chromium	7440-47-3	0.754	U	1.90
Cobalt	7440-48-4	0.0143	U	0.0374
Copper	7440-50-8	0.392	U	2.26
Lead	7439-92-1	0.0241	U	0.184
Manganese	7439-96-5	0.289	U	1.62
Molybdenum	7439-98-7	0.145	U	0.308
Nickel	7440-02-0	0.420	GC-BS, U	0.560
Selenium	7782-49-2	0.00357	U	0.00769
Thallium	7440-28-0	1.14E-4	QB-04, U	5.06E-4
Vanadium	7440-62-2	0.0175	U	0.0454
Zinc	7440-66-6	9.53	U	66.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102124-HM
Matrix: Air
Lab ID: 4102834-20
Sample Volume: 1874.243 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:03

Comments: Q8529439 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.313**		**0.00813**
Barium	**7440-39-3**	**4.07**		**0.929**
Beryllium	**7440-41-7**	**0.00849**		**0.00278**
Cadmium	7440-43-9	0.0147	U	0.0643
Chromium	**7440-47-3**	**1.95**		**1.92**
Cobalt	**7440-48-4**	**0.298**		**0.0378**
Copper	**7440-50-8**	**69.1**		**2.28**
Lead	**7439-92-1**	**0.816**		**0.186**
Manganese	**7439-96-5**	**8.43**		**1.64**
Molybdenum	**7439-98-7**	**3.09**		**0.312**
Nickel	**7440-02-0**	**1.17**	GC-BS	**0.566**
Selenium	**7782-49-2**	**0.215**		**0.00778**
Thallium	**7440-28-0**	**0.00119**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0459**
Zinc	7440-66-6	17.0	U	66.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102124-HM
Matrix: Air
Lab ID: 4102834-21
Sample Volume: 2081.269 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:21

Comments: Q8529438 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.190**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.305**		**0.00732**
Barium	**7440-39-3**	**5.91**		**0.836**
Beryllium	**7440-41-7**	**0.0139**		**0.00250**
Cadmium	7440-43-9	0.0145	U	0.0579
Chromium	**7440-47-3**	**2.65**		**1.73**
Cobalt	**7440-48-4**	**0.565**		**0.0341**
Copper	**7440-50-8**	**35.8**		**2.06**
Lead	**7439-92-1**	**0.678**		**0.167**
Manganese	**7439-96-5**	**13.9**		**1.48**
Molybdenum	**7439-98-7**	**1.83**		**0.281**
Nickel	**7440-02-0**	**1.94**	GC-BS	**0.510**
Selenium	**7782-49-2**	**0.234**		**0.00700**
Thallium	**7440-28-0**	**0.00111**	QB-04	**4.60E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0414**
Zinc	7440-66-6	20.5	U	60.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102124-HM
Matrix: Air
Lab ID: 4102834-22
Sample Volume: 2050.058 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:38

Comments: Q8529437 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0630**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.150**		**0.00744**
Barium	**7440-39-3**	**2.55**		**0.849**
Beryllium	**7440-41-7**	**0.0133**		**0.00254**
Cadmium	7440-43-9	0.00734	U	0.0588
Chromium	**7440-47-3**	**2.29**		**1.75**
Cobalt	**7440-48-4**	**0.287**		**0.0346**
Copper	**7440-50-8**	**45.9**		**2.09**
Lead	**7439-92-1**	**0.267**		**0.170**
Manganese	**7439-96-5**	**6.93**		**1.50**
Molybdenum	**7439-98-7**	**2.52**		**0.285**
Nickel	**7440-02-0**	**1.43**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.214**		**0.00711**
Thallium	**7440-28-0**	**8.08E-4**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**0.856**		**0.0420**
Zinc	7440-66-6	11.6	U	61.0

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102124-HM
Matrix: Air
Lab ID: 4102834-23
Sample Volume: 1851.674 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:52

Comments: Q8529436 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0878**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.445**		**0.00823**
Barium	**7440-39-3**	**4.85**		**0.940**
Beryllium	**7440-41-7**	**0.0265**		**0.00281**
Cadmium	7440-43-9	0.0147	U	0.0651
Chromium	**7440-47-3**	**4.03**		**1.94**
Cobalt	**7440-48-4**	**0.949**		**0.0383**
Copper	**7440-50-8**	**24.7**		**2.31**
Lead	**7439-92-1**	**0.373**		**0.188**
Manganese	**7439-96-5**	**24.2**		**1.66**
Molybdenum	**7439-98-7**	**1.46**		**0.315**
Nickel	**7440-02-0**	**2.53**	GC-BS	**0.573**
Selenium	**7782-49-2**	**0.301**		**0.00787**
Thallium	**7440-28-0**	**0.00151**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0465**
Zinc	7440-66-6	13.8	U	67.5

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102124-HM
Matrix: Air
Lab ID: 4102834-24
Sample Volume: 1874.243 m³
Filter ID:
Sampled: 10/21/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:07

Comments: Q8529434 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0231	SL, U	0.0335
Arsenic	**7440-38-2**	**0.00848**	FB-01	**0.00813**
Barium	7440-39-3	0.826	U	0.929
Beryllium	7440-41-7	2.43E-4	U	0.00278
Cadmium	7440-43-9	6.77E-4	U	0.0643
Chromium	7440-47-3	0.980	U	1.92
Cobalt	7440-48-4	0.0134	U	0.0378
Copper	7440-50-8	0.393	U	2.28
Lead	7439-92-1	0.0268	U	0.186
Manganese	7439-96-5	0.196	U	1.64
Molybdenum	7439-98-7	0.150	U	0.312
Nickel	7440-02-0	0.522	GC-BS, U	0.566
Selenium	7782-49-2	0.00184	U	0.00778
Thallium	7440-28-0	1.35E-4	QB-04, U	5.11E-4
Vanadium	7440-62-2	0.00385	U	0.0459
Zinc	7440-66-6	6.20	U	66.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102224-HM
Matrix: Air
Lab ID: 4102834-25
Sample Volume: 1903.386 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:20

Comments: Q8529435 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.471**		**0.00801**
Barium	**7440-39-3**	**5.37**		**0.915**
Beryllium	**7440-41-7**	**0.0149**		**0.00274**
Cadmium	7440-43-9	0.0178	U	0.0633
Chromium	**7440-47-3**	**2.74**		**1.89**
Cobalt	**7440-48-4**	**0.598**		**0.0373**
Copper	**7440-50-8**	**75.5**		**2.25**
Lead	**7439-92-1**	**1.04**		**0.183**
Manganese	**7439-96-5**	**14.8**		**1.62**
Molybdenum	**7439-98-7**	**3.41**		**0.307**
Nickel	**7440-02-0**	**2.10**	GC-BS	**0.557**
Selenium	**7782-49-2**	**0.249**		**0.00766**
Thallium	**7440-28-0**	**0.00118**	QB-04	**5.03E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0452**
Zinc	7440-66-6	18.5	U	65.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102224-HM
Matrix: Air
Lab ID: 4102834-26
Sample Volume: 2097.016 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:35

Comments: Q8529433 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.178**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.361**		**0.00727**
Barium	**7440-39-3**	**7.65**		**0.830**
Beryllium	**7440-41-7**	**0.0193**		**0.00248**
Cadmium	7440-43-9	0.0222	U	0.0575
Chromium	**7440-47-3**	**3.60**		**1.71**
Cobalt	**7440-48-4**	**0.794**		**0.0338**
Copper	**7440-50-8**	**32.4**		**2.04**
Lead	**7439-92-1**	**0.670**		**0.166**
Manganese	**7439-96-5**	**18.6**		**1.47**
Molybdenum	**7439-98-7**	**1.98**		**0.279**
Nickel	**7440-02-0**	**2.59**	GC-BS	**0.506**
Selenium	**7782-49-2**	**0.273**		**0.00695**
Thallium	**7440-28-0**	**0.00128**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**2.58**		**0.0410**
Zinc	7440-66-6	16.4	U	59.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102224-HM
Matrix: Air
Lab ID: 4102834-27
Sample Volume: 2042.351 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:49

Comments: Q8529432 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0645**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.260**		**0.00746**
Barium	**7440-39-3**	**3.64**		**0.852**
Beryllium	**7440-41-7**	**0.0253**		**0.00255**
Cadmium	7440-43-9	0.00749	U	0.0590
Chromium	**7440-47-3**	**2.41**		**1.76**
Cobalt	**7440-48-4**	**0.524**		**0.0347**
Copper	**7440-50-8**	**51.4**		**2.10**
Lead	**7439-92-1**	**0.359**		**0.170**
Manganese	**7439-96-5**	**12.3**		**1.51**
Molybdenum	**7439-98-7**	**2.49**		**0.286**
Nickel	**7440-02-0**	**1.69**	GC-BS	**0.519**
Selenium	**7782-49-2**	**0.235**		**0.00714**
Thallium	**7440-28-0**	**9.73E-4**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0421**
Zinc	7440-66-6	10.1	U	61.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102224-HM
Matrix: Air
Lab ID: 4102834-28
Sample Volume: 1838.553 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 14:03

Comments: Q8529431 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0961**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.587**		**0.00829**
Barium	**7440-39-3**	**6.74**		**0.947**
Beryllium	**7440-41-7**	**0.0442**		**0.00283**
Cadmium	7440-43-9	0.0235	U	0.0656
Chromium	**7440-47-3**	**5.43**		**1.96**
Cobalt	**7440-48-4**	**1.39**		**0.0386**
Copper	**7440-50-8**	**21.9**		**2.33**
Lead	**7439-92-1**	**0.522**		**0.189**
Manganese	**7439-96-5**	**37.4**		**1.67**
Molybdenum	**7439-98-7**	**1.35**		**0.318**
Nickel	**7440-02-0**	**3.65**	GC-BS	**0.577**
Selenium	**7782-49-2**	**0.384**		**0.00793**
Thallium	**7440-28-0**	**0.00186**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**3.61**		**0.0468**
Zinc	7440-66-6	13.1	U	68.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102324-HM
Matrix: Air
Lab ID: 4102834-29
Sample Volume: 1860.797 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 14:17

Comments: Q8529428 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.126**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.314**		**0.00819**
Barium	**7440-39-3**	**4.03**		**0.936**
Beryllium	**7440-41-7**	**0.00909**		**0.00280**
Cadmium	7440-43-9	0.0147	U	0.0648
Chromium	7440-47-3	1.89	U	1.93
Cobalt	**7440-48-4**	**0.363**		**0.0381**
Copper	**7440-50-8**	**68.9**		**2.30**
Lead	**7439-92-1**	**0.912**		**0.187**
Manganese	**7439-96-5**	**9.21**		**1.65**
Molybdenum	**7439-98-7**	**3.07**		**0.314**
Nickel	**7440-02-0**	**1.56**	GC-BS	**0.570**
Selenium	**7782-49-2**	**0.174**		**0.00783**
Thallium	**7440-28-0**	**8.27E-4**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0463**
Zinc	7440-66-6	17.1	U	67.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102324-HM
Matrix: Air
Lab ID: 4102834-30
Sample Volume: 2065.489 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 01:21

Comments: Q8529427 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.189**		**0.00738**
Barium	**7440-39-3**	**3.99**		**0.843**
Beryllium	**7440-41-7**	**0.00928**		**0.00252**
Cadmium	7440-43-9	0.0120	U	0.0584
Chromium	7440-47-3	1.59	U	1.74
Cobalt	**7440-48-4**	**0.295**		**0.0343**
Copper	**7440-50-8**	**38.0**		**2.07**
Lead	**7439-92-1**	**0.538**		**0.169**
Manganese	**7439-96-5**	**8.37**		**1.49**
Molybdenum	**7439-98-7**	**1.82**		**0.283**
Nickel	**7440-02-0**	**1.14**	GC-BS	**0.514**
Selenium	**7782-49-2**	**0.169**		**0.00706**
Thallium	**7440-28-0**	**8.10E-4**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0417**
Zinc	7440-66-6	12.9	U	60.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102324-HM
Matrix: Air
Lab ID: 4102834-31
Sample Volume: 2047.489 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 15:52

Comments: Q8529426 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0787**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.147**		**0.00745**
Barium	**7440-39-3**	**3.18**	LJ, QX	**0.850**
Beryllium	**7440-41-7**	**0.0170**		**0.00254**
Cadmium	7440-43-9	0.00658	U	0.0589
Chromium	**7440-47-3**	**1.99**		**1.76**
Cobalt	**7440-48-4**	**0.361**		**0.0346**
Copper	**7440-50-8**	**49.0**		**2.09**
Lead	**7439-92-1**	**0.252**		**0.170**
Manganese	**7439-96-5**	**8.79**		**1.50**
Molybdenum	**7439-98-7**	**2.47**		**0.285**
Nickel	**7440-02-0**	**1.51**	GC-BS	**0.518**
Selenium	**7782-49-2**	**0.162**		**0.00712**
Thallium	**7440-28-0**	**7.76E-4**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0420**
Zinc	7440-66-6	9.20	U	61.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102324-HM
Matrix: Air
Lab ID: 4102834-32
Sample Volume: 1821.746 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 16:07

Comments: Q8529425 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0865**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.485**		**0.00837**
Barium	**7440-39-3**	**5.99**	LJ, QX	**0.956**
Beryllium	**7440-41-7**	**0.0426**		**0.00286**
Cadmium	7440-43-9	0.0114	U	0.0662
Chromium	**7440-47-3**	**5.30**		**1.97**
Cobalt	**7440-48-4**	**1.31**		**0.0389**
Copper	**7440-50-8**	**22.9**		**2.35**
Lead	**7439-92-1**	**0.396**		**0.191**
Manganese	**7439-96-5**	**35.7**		**1.69**
Molybdenum	**7439-98-7**	**1.45**		**0.321**
Nickel	**7440-02-0**	**3.31**	GC-BS	**0.582**
Selenium	**7782-49-2**	**0.322**		**0.00800**
Thallium	**7440-28-0**	**0.00182**	QB-04	**5.26E-4**
Vanadium	**7440-62-2**	**3.30**		**0.0472**
Zinc	7440-66-6	12.9	U	68.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102324-HM
Matrix: Air
Lab ID: 4102834-33
Sample Volume: 1860.797 m³
Filter ID:
Sampled: 10/23/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 16:27

Comments: Q8529419 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0250	SL, U	0.0338
Arsenic	7440-38-2	0.00785	U	0.00819
Barium	**7440-39-3**	**0.976**	FB-01, LJ, QX	**0.936**
Beryllium	7440-41-7	3.97E-4	U	0.00280
Cadmium	7440-43-9	0.00648	U	0.0648
Chromium	7440-47-3	0.881	U	1.93
Cobalt	7440-48-4	0.0162	U	0.0381
Copper	**7440-50-8**	**2.34**	FB-01	**2.30**
Lead	7439-92-1	0.0990	U	0.187
Manganese	7439-96-5	0.256	U	1.65
Molybdenum	7439-98-7	0.196	U	0.314
Nickel	7440-02-0	0.522	GC-BS, U	0.570
Selenium	7782-49-2	0.00437	U	0.00783
Thallium	7440-28-0	1.84E-4	QB-04, U	5.15E-4
Vanadium	7440-62-2	0.0129	U	0.0463
Zinc	7440-66-6	9.26	U	67.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Blank (2410096-CCB1)				Prepared & Analyzed: 10/29/24						
Antimony	0.740		ng/l							
Arsenic	8.05		ng/l							
Barium	0.771		ng/l							
Beryllium	-0.737		ng/l							U
Cadmium	-0.0125		ng/l							U
Chromium	1.67		ng/l							
Cobalt	0.229		ng/l							
Copper	45.8		ng/l							
Lead	0.612		ng/l							
Manganese	2.48		ng/l							
Molybdenum	15.0		ng/l							
Nickel	1.73		ng/l							
Selenium	1.08		ng/l							
Thallium	1.99		ng/l							QB-04
Vanadium	-48.3		ng/l							U
Zinc	-44.3		ng/l							U
Calibration Blank (2410096-CCB2)				Prepared & Analyzed: 10/29/24						
Antimony	0.600		ng/l							
Arsenic	8.73		ng/l							
Barium	-0.0733		ng/l							U
Beryllium	-0.455		ng/l							U
Cadmium	-0.0646		ng/l							U
Chromium	3.31		ng/l							
Cobalt	0.225		ng/l							
Copper	11.2		ng/l							
Lead	0.268		ng/l							
Manganese	2.52		ng/l							
Molybdenum	3.30		ng/l							
Nickel	1.78		ng/l							
Selenium	4.41		ng/l							
Thallium	1.72		ng/l							QB-04
Vanadium	-53.5		ng/l							U
Zinc	-52.1		ng/l							U
Calibration Blank (2410096-CCB3)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.648		ng/l							
Arsenic	12.7		ng/l							
Barium	0.681		ng/l							
Beryllium	-0.419		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Blank (2410096-CCB3) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Cadmium	-0.0173		ng/l							U
Chromium	3.09		ng/l							
Cobalt	0.203		ng/l							
Copper	7.49		ng/l							
Lead	0.382		ng/l							
Manganese	3.33		ng/l							
Molybdenum	5.09		ng/l							
Nickel	2.35		ng/l							
Selenium	0.444		ng/l							
Thallium	1.63		ng/l							QB-04
Vanadium	-54.8		ng/l							U
Zinc	-52.3		ng/l							U
Calibration Blank (2410096-CCB4)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.635		ng/l							
Arsenic	13.1		ng/l							
Barium	0.425		ng/l							
Beryllium	-1.01		ng/l							U
Cadmium	0.0217		ng/l							
Chromium	3.18		ng/l							
Cobalt	0.253		ng/l							
Copper	6.13		ng/l							
Lead	0.446		ng/l							
Manganese	0.670		ng/l							
Molybdenum	3.89		ng/l							
Nickel	3.00		ng/l							
Selenium	0.146		ng/l							
Thallium	1.44		ng/l							QB-04
Vanadium	-62.7		ng/l							U
Zinc	-45.1		ng/l							U
Calibration Blank (2410096-CCB5)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.598		ng/l							
Arsenic	12.4		ng/l							
Barium	0.403		ng/l							
Beryllium	-1.14		ng/l							U
Cadmium	0.0605		ng/l							
Chromium	2.47		ng/l							
Cobalt	0.320		ng/l							
Copper	6.57		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Blank (2410096-CCB5) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Lead	0.673		ng/l							
Manganese	1.29		ng/l							
Molybdenum	4.05		ng/l							
Nickel	1.73		ng/l							
Selenium	-3.13		ng/l							U
Thallium	1.56		ng/l							QB-04
Vanadium	-62.0		ng/l							U
Zinc	-36.8		ng/l							U
Calibration Blank (2410096-CCB6)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.826		ng/l							
Arsenic	10.3		ng/l							
Barium	0.539		ng/l							
Beryllium	-1.19		ng/l							U
Cadmium	0.0170		ng/l							
Chromium	2.15		ng/l							
Cobalt	0.178		ng/l							
Copper	4.78		ng/l							
Lead	0.797		ng/l							
Manganese	1.20		ng/l							
Molybdenum	4.52		ng/l							
Nickel	2.56		ng/l							
Selenium	10.1		ng/l							
Thallium	1.53		ng/l							QB-04
Vanadium	-66.1		ng/l							U
Zinc	-44.0		ng/l							U
Calibration Blank (2410096-CCB7)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.560		ng/l							
Arsenic	7.71		ng/l							
Barium	0.456		ng/l							
Beryllium	-1.31		ng/l							U
Cadmium	0.104		ng/l							
Chromium	2.58		ng/l							
Cobalt	0.256		ng/l							
Copper	6.57		ng/l							
Lead	1.31		ng/l							
Manganese	0.634		ng/l							
Molybdenum	4.21		ng/l							
Nickel	2.47		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Blank (2410096-CCB7) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Selenium	7.77		ng/l							
Thallium	1.90		ng/l							QB-04
Vanadium	-67.3		ng/l							U
Zinc	-51.7		ng/l							U
Calibration Check (2410096-CCV1)				Prepared & Analyzed: 10/29/24						
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	49600		ng/l	50000		99.3	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	477000		ng/l	500000		95.4	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19700		ng/l	20000		98.5	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			QB-04
Vanadium	19000		ng/l	20000		94.8	90-110			
Zinc	461000		ng/l	500000		92.2	90-110			
Calibration Check (2410096-CCV2)				Prepared & Analyzed: 10/29/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	482000		ng/l	500000		96.3	90-110			
Molybdenum	49400		ng/l	50000		98.7	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			QB-04
Vanadium	19300		ng/l	20000		96.3	90-110			
Zinc	464000		ng/l	500000		92.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Check (2410096-CCV3)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4930		ng/l	5000.0		98.5	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.4	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	486000		ng/l	500000		97.2	90-110			
Molybdenum	50000		ng/l	50000		99.9	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			QB-04
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	471000		ng/l	500000		94.1	90-110			
Calibration Check (2410096-CCV4)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			QB-04
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	476000		ng/l	500000		95.2	90-110			
Calibration Check (2410096-CCV5)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	220000		ng/l	200000		110	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Check (2410096-CCV5) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	54300		ng/l	50000		109	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			QB-04
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	480000		ng/l	500000		96.0	90-110			
Calibration Check (2410096-CCV6)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	220000		ng/l	200000		110	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.20E6		ng/l	2.0000E6		110	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	54200		ng/l	50000		108	90-110			
Nickel	131000		ng/l	120000		109	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	485		ng/l	500.00		97.1	90-110			QB-04
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	479000		ng/l	500000		95.9	90-110			
Calibration Check (2410096-CCV7)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	222000		ng/l	200000		111	90-110			LJ, QX
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Check (2410096-CCV7) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	54700		ng/l	50000		109	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			QB-04
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	480000		ng/l	500000		96.0	90-110			
High Cal Check (2410096-HCV1)				Prepared & Analyzed: 10/29/24						
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	40200		ng/l	40000		100	95-105			
Barium	395000		ng/l	400000		98.7	95-105			
Beryllium	9750		ng/l	10000		97.5	95-105			
Cadmium	39700		ng/l	40000		99.1	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	102000		ng/l	100000		102	95-105			
Copper	4.02E6		ng/l	4.0000E6		100	95-105			
Lead	398000		ng/l	400000		99.6	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	98800		ng/l	100000		98.8	95-105			
Nickel	240000		ng/l	240000		99.8	95-105			
Selenium	39400		ng/l	40000		98.6	95-105			
Thallium	979		ng/l	1000.0		97.9	95-105			QB-04
Vanadium	39100		ng/l	40000		97.7	95-105			
Zinc	1.04E6		ng/l	1.0000E6		104	95-105			
Initial Cal Blank (2410096-ICB1)				Prepared & Analyzed: 10/29/24						
Antimony	0.585		ng/l							
Arsenic	2.05		ng/l							
Barium	0.455		ng/l							
Beryllium	-0.712		ng/l							U
Cadmium	0.106		ng/l							
Chromium	2.25		ng/l							
Cobalt	0.146		ng/l							
Copper	23.9		ng/l							
Lead	0.345		ng/l							
Manganese	2.78		ng/l							
Molybdenum	2.74		ng/l							
Nickel	0.231		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Initial Cal Blank (2410096-ICB1) Continu				Prepared & Analyzed: 10/29/24						
Selenium	5.41		ng/l							
Thallium	1.29		ng/l							QB-04
Vanadium	-47.3		ng/l							U
Zinc	-50.8		ng/l							U
Initial Cal Check (2410096-ICV1)				Prepared & Analyzed: 10/29/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19200		ng/l	20000		95.9	90-110			
Barium	191000		ng/l	200000		95.7	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	234000		ng/l	240000		97.6	90-110			
Cobalt	48700		ng/l	50000		97.5	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	48900		ng/l	50000		97.7	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			QB-04
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	475000		ng/l	500000		95.1	90-110			
Interference Check A (2410096-IFA1)				Prepared & Analyzed: 10/29/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	359000		ng/l	300000		120	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			QB-04, U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Interference Check B (2410096-IFB1)					Prepared & Analyzed: 10/29/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	198000		ng/l	200000		99.2	80-120			
Beryllium	4790		ng/l	5000.0		95.8	80-120			
Cadmium	19400		ng/l	20000		97.2	80-120			
Chromium	236000		ng/l	240000		98.5	80-120			
Cobalt	51300		ng/l	50000		103	80-120			
Copper	2.00E6		ng/l	2.0000E6		99.9	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	491000		ng/l	500000		98.2	80-120			
Molybdenum	415000		ng/l	350000		118	80-120			
Nickel	122000		ng/l	120000		102	80-120			
Selenium	18900		ng/l	20000		94.5	80-120			
Thallium	509		ng/l	500.00		102	80-120			QB-04
Vanadium	18200		ng/l	20000		91.0	80-120			
Zinc	431000		ng/l	500000		86.3	80-120			
Batch B4J2908 - ICP-MS Extraction										
Blank (B4J2908-BLK1)					Prepared & Analyzed: 10/29/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							GC-BS, U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J2908-BS1)					Prepared & Analyzed: 10/29/24					
Antimony	0.779	0.0386	ng/m³ Air	1.3829		56.4	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.9	80-120			
Barium	26.4	1.07	ng/m³ Air	27.658		95.6	80-120			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
LCS (B4J2908-BS1) Continued					Prepared & Analyzed: 10/29/24					
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.9	80-120			
Chromium	13.9	2.21	ng/m³ Air	13.829		101	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		97.1	80-120			
Copper	26.4	2.63	ng/m³ Air	27.658		95.5	80-120			
Lead	12.8	0.214	ng/m³ Air	13.829		92.5	80-120			
Manganese	7.67	1.89	ng/m³ Air	8.2975		92.4	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.26	0.652	ng/m³ Air	2.7658		118	80-120			GC-BS
Selenium	2.65	0.00896	ng/m³ Air	2.7658		95.8	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.0	80-120			QB-04
Vanadium	2.66	0.0529	ng/m³ Air	2.7658		96.2	80-120			
Zinc	80.6	76.8	ng/m³ Air	82.975		97.2	80-120			
LCS (B4J2908-BS2)					Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.799	0.0386	ng/m³ Air	1.3829		57.8	80-120			SL
Arsenic	2.75	0.00937	ng/m³ Air	2.7658		99.3	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.5	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	14.2	2.21	ng/m³ Air	13.829		103	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.3	80-120			
Copper	27.1	2.63	ng/m³ Air	27.658		98.0	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.3	80-120			
Manganese	7.91	1.89	ng/m³ Air	8.2975		95.4	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	4.52	0.652	ng/m³ Air	2.7658		163	80-120			GC-BS
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		96.6	80-120			QB-04
Vanadium	2.75	0.0529	ng/m³ Air	2.7658		99.6	80-120			
Zinc	83.4	76.8	ng/m³ Air	82.975		101	80-120			
Duplicate (B4J2908-DUP1)		**Source: 4102834-09**			Prepared & Analyzed: 10/29/24					
Antimony	0.134	0.0341	ng/m³ Air		0.135			1.21	10	SL
Arsenic	0.462	0.00829	ng/m³ Air		0.443			4.31	10	
Barium	3.80	0.946	ng/m³ Air		4.33			13.1	10	
Beryllium	0.0170	0.00283	ng/m³ Air		0.0186			9.01	10	
Cadmium	ND	0.0655	ng/m³ Air		ND				10	U
Chromium	3.30	1.95	ng/m³ Air		3.17			4.07	10	
Cobalt	0.582	0.0386	ng/m³ Air		0.636			8.83	10	

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Duplicate (B4J2908-DUP1) Continued			**Source: 4102834-09**		Prepared & Analyzed: 10/29/24					
Copper	22.8	2.33	ng/m³ Air		21.7			4.90	10	
Lead	0.485	0.189	ng/m³ Air		0.448			7.88	10	
Manganese	17.0	1.67	ng/m³ Air		17.1			0.105	10	
Molybdenum	1.61	0.318	ng/m³ Air		1.64			1.84	10	
Nickel	1.69	0.577	ng/m³ Air		1.76			4.24	10	GC-BS
Selenium	0.377	0.00793	ng/m³ Air		0.367			2.79	10	
Thallium	0.00205	5.21E-4	ng/m³ Air		0.00205			0.319	10	QB-04
Vanadium	2.04	0.0468	ng/m³ Air		2.02			1.13	10	
Zinc	ND	67.9	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP2)			**Source: 4102834-30**		Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.142	0.0304	ng/m³ Air		0.155			8.68	10	SL
Arsenic	0.197	0.00738	ng/m³ Air		0.189			3.96	10	
Barium	3.94	0.843	ng/m³ Air		3.99			1.31	10	
Beryllium	0.00928	0.00252	ng/m³ Air		0.00928			0.0365	10	
Cadmium	ND	0.0584	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U
Cobalt	0.303	0.0343	ng/m³ Air		0.295			2.54	10	
Copper	37.4	2.07	ng/m³ Air		38.0			1.61	10	
Lead	0.508	0.169	ng/m³ Air		0.538			5.86	10	
Manganese	8.53	1.49	ng/m³ Air		8.37			1.84	10	
Molybdenum	1.85	0.283	ng/m³ Air		1.82			1.59	10	
Nickel	1.16	0.514	ng/m³ Air		1.14			1.82	10	GC-BS
Selenium	0.172	0.00706	ng/m³ Air		0.169			2.01	10	
Thallium	7.18E-4	4.64E-4	ng/m³ Air		8.10E-4			12.1	10	QB-04
Vanadium	1.11	0.0417	ng/m³ Air		1.10			0.266	10	
Zinc	ND	60.5	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP3)			**Source: 4102834-01**		Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.133	0.0339	ng/m³ Air		0.135			1.93	10	SL
Arsenic	0.673	0.00822	ng/m³ Air		0.669			0.610	10	
Barium	8.43	0.939	ng/m³ Air		8.59			1.83	10	
Beryllium	0.0326	0.00281	ng/m³ Air		0.0319			2.29	10	
Cadmium	ND	0.0650	ng/m³ Air		ND				10	U
Chromium	4.62	1.94	ng/m³ Air		4.68			1.36	10	
Cobalt	1.07	0.0382	ng/m³ Air		1.06			0.710	10	
Copper	55.8	2.31	ng/m³ Air		55.2			0.989	10	
Lead	1.57	0.188	ng/m³ Air		1.59			1.66	10	
Manganese	32.2	1.66	ng/m³ Air		32.7			1.44	10	
Molybdenum	3.35	0.315	ng/m³ Air		3.38			0.994	10	

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Duplicate (B4J2908-DUP3) Continued		**Source: 4102834-01**		Prepared: 10/29/24 Analyzed: 10/30/24						
Nickel	2.54	0.572	ng/m³ Air		2.52			0.552	10	GC-BS
Selenium	0.342	0.00786	ng/m³ Air		0.350			2.17	10	
Thallium	0.00292	5.17E-4	ng/m³ Air		0.00309			5.63	10	QB-04
Vanadium	3.47	0.0464	ng/m³ Air		3.52			1.66	10	
Zinc	ND	67.4	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP4)		**Source: 4102834-18**		Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.0968	0.0347	ng/m³ Air		0.0980			1.24	10	SL
Arsenic	0.233	0.00842	ng/m³ Air		0.239			2.81	10	
Barium	3.31	0.961	ng/m³ Air		3.35			1.21	10	
Beryllium	0.0163	0.00287	ng/m³ Air		0.0142			13.8	10	
Cadmium	ND	0.0666	ng/m³ Air		ND				10	U
Chromium	2.69	1.99	ng/m³ Air		2.67			0.813	10	
Cobalt	0.463	0.0392	ng/m³ Air		0.463			0.0848	10	
Copper	21.7	2.36	ng/m³ Air		21.8			0.229	10	
Lead	0.321	0.192	ng/m³ Air		0.323			0.492	10	
Manganese	12.9	1.70	ng/m³ Air		12.9			0.0157	10	
Molybdenum	1.44	0.323	ng/m³ Air		1.42			1.14	10	
Nickel	1.63	0.586	ng/m³ Air		1.63			0.174	10	GC-BS
Selenium	0.246	0.00805	ng/m³ Air		0.256			4.27	10	
Thallium	0.00130	5.29E-4	ng/m³ Air		0.00125			4.08	10	QB-04
Vanadium	1.33	0.0475	ng/m³ Air		1.32			0.871	10	
Zinc	ND	69.0	ng/m³ Air		ND				10	U
Matrix Spike (B4J2908-MS1)		**Source: 4102834-09**		Prepared & Analyzed: 10/29/24						
Antimony	0.737	0.0341	ng/m³ Air	1.2233	0.135	49.2	80-120			SL
Arsenic	2.77	0.00829	ng/m³ Air	2.4466	0.443	94.9	80-120			
Barium	26.8	0.946	ng/m³ Air	24.466	4.33	91.8	80-120			
Beryllium	1.18	0.00283	ng/m³ Air	1.2233	0.0186	95.1	80-120			
Cadmium	1.24	0.0655	ng/m³ Air	1.2233	ND	101	80-120			
Chromium	14.6	1.95	ng/m³ Air	12.233	3.17	93.3	80-120			
Cobalt	1.82	0.0386	ng/m³ Air	1.2233	0.636	96.9	80-120			
Copper	47.5	2.33	ng/m³ Air	24.466	21.7	106	80-120			
Lead	12.3	0.189	ng/m³ Air	12.233	0.448	96.8	80-120			
Manganese	23.6	1.67	ng/m³ Air	7.3396	17.1	89.7	80-120			
Molybdenum	2.70	0.318	ng/m³ Air	1.2233	1.64	86.1	80-120			
Nickel	4.91	0.577	ng/m³ Air	2.4466	1.76	129	80-120			GC-BS, QM-07
Selenium	2.70	0.00793	ng/m³ Air	2.4466	0.367	95.2	80-120			
Thallium	0.119	5.21E-4	ng/m³ Air	0.12233	0.00205	95.8	80-120			QB-04
Vanadium	4.32	0.0468	ng/m³ Air	2.4466	2.02	93.9	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Matrix Spike (B4J2908-MS1) Continued	**Source: 4102834-09**			Prepared & Analyzed: 10/29/24						
Zinc	80.4	67.9	ng/m³ Air	73.396	ND	110	80-120			
Matrix Spike (B4J2908-MS2)	**Source: 4102834-30**			Prepared: 10/29/24		Analyzed: 10/30/24				
Antimony	0.807	0.0304	ng/m³ Air	1.0893	0.155	59.8	80-120			SL
Arsenic	2.31	0.00738	ng/m³ Air	2.1787	0.189	97.3	80-120			
Barium	24.7	0.843	ng/m³ Air	21.787	3.99	94.8	80-120			
Beryllium	1.11	0.00252	ng/m³ Air	1.0893	0.00928	101	80-120			
Cadmium	1.11	0.0584	ng/m³ Air	1.0893	ND	102	80-120			
Chromium	12.1	1.74	ng/m³ Air	10.893	ND	111	80-120			
Cobalt	1.38	0.0343	ng/m³ Air	1.0893	0.295	99.7	80-120			
Copper	60.6	2.07	ng/m³ Air	21.787	38.0	104	80-120			
Lead	11.2	0.169	ng/m³ Air	10.893	0.538	98.2	80-120			
Manganese	14.1	1.49	ng/m³ Air	6.5360	8.37	87.4	80-120			
Molybdenum	2.86	0.283	ng/m³ Air	1.0893	1.82	95.1	80-120			
Nickel	3.46	0.514	ng/m³ Air	2.1787	1.14	106	80-120			GC-BS
Selenium	2.26	0.00706	ng/m³ Air	2.1787	0.169	95.9	80-120			
Thallium	0.106	4.64E-4	ng/m³ Air	0.10893	8.10E-4	96.5	80-120			QB-04
Vanadium	3.16	0.0417	ng/m³ Air	2.1787	1.10	94.5	80-120			
Zinc	74.4	60.5	ng/m³ Air	65.360	ND	114	80-120			
Matrix Spike Dup (B4J2908-MSD1)	**Source: 4102834-09**			Prepared & Analyzed: 10/29/24						
Antimony	0.748	0.0341	ng/m³ Air	1.2233	0.135	50.1	80-120	1.49	20	SL
Arsenic	2.78	0.00829	ng/m³ Air	2.4466	0.443	95.7	80-120	0.636	20	
Barium	26.4	0.946	ng/m³ Air	24.466	4.33	90.2	80-120	1.49	20	
Beryllium	1.17	0.00283	ng/m³ Air	1.2233	0.0186	94.4	80-120	0.732	20	
Cadmium	1.27	0.0655	ng/m³ Air	1.2233	ND	104	80-120	2.95	20	
Chromium	15.1	1.95	ng/m³ Air	12.233	3.17	97.5	80-120	3.49	20	
Cobalt	1.80	0.0386	ng/m³ Air	1.2233	0.636	95.4	80-120	1.04	20	
Copper	47.3	2.33	ng/m³ Air	24.466	21.7	105	80-120	0.522	20	
Lead	12.3	0.189	ng/m³ Air	12.233	0.448	96.8	80-120	0.0177	20	
Manganese	23.3	1.67	ng/m³ Air	7.3396	17.1	84.5	80-120	1.63	20	
Molybdenum	2.71	0.318	ng/m³ Air	1.2233	1.64	87.1	80-120	0.466	20	
Nickel	4.39	0.577	ng/m³ Air	2.4466	1.76	107	80-120	11.4	20	GC-BS
Selenium	2.70	0.00793	ng/m³ Air	2.4466	0.367	95.4	80-120	0.188	20	
Thallium	0.119	5.21E-4	ng/m³ Air	0.12233	0.00205	95.4	80-120	0.374	20	QB-04
Vanadium	4.28	0.0468	ng/m³ Air	2.4466	2.02	92.4	80-120	0.856	20	
Zinc	80.7	67.9	ng/m³ Air	73.396	ND	110	80-120	0.372	20	
Matrix Spike Dup (B4J2908-MSD2)	**Source: 4102834-30**			Prepared: 10/29/24		Analyzed: 10/30/24				
Antimony	0.767	0.0304	ng/m³ Air	1.0893	0.155	56.2	80-120	5.01	20	SL
Arsenic	2.29	0.00738	ng/m³ Air	2.1787	0.189	96.4	80-120	0.841	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Matrix Spike Dup (B4J2908-MSD2) Contir			**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24			
Barium	23.9	0.843	ng/m³ Air	21.787	3.99	91.4	80-120	3.09	20	
Beryllium	1.06	0.00252	ng/m³ Air	1.0893	0.00928	96.2	80-120	5.20	20	
Cadmium	1.11	0.0584	ng/m³ Air	1.0893	ND	102	80-120	0.639	20	
Chromium	11.9	1.74	ng/m³ Air	10.893	ND	109	80-120	2.28	20	
Cobalt	1.37	0.0343	ng/m³ Air	1.0893	0.295	98.9	80-120	0.627	20	
Copper	62.2	2.07	ng/m³ Air	21.787	38.0	111	80-120	2.64	20	
Lead	11.2	0.169	ng/m³ Air	10.893	0.538	98.1	80-120	0.101	20	
Manganese	13.9	1.49	ng/m³ Air	6.5360	8.37	84.0	80-120	1.58	20	
Molybdenum	2.94	0.283	ng/m³ Air	1.0893	1.82	103	80-120	2.87	20	
Nickel	3.44	0.514	ng/m³ Air	2.1787	1.14	105	80-120	0.588	20	GC-BS
Selenium	2.26	0.00706	ng/m³ Air	2.1787	0.169	96.2	80-120	0.341	20	
Thallium	0.105	4.64E-4	ng/m³ Air	0.10893	8.10E-4	95.6	80-120	0.846	20	QB-04
Vanadium	3.13	0.0417	ng/m³ Air	2.1787	1.10	92.9	80-120	1.16	20	
Zinc	72.3	60.5	ng/m³ Air	65.360	ND	111	80-120	2.96	20	
Post Spike (B4J2908-PS1)			**Source: 4102834-09**		Prepared & Analyzed: 10/29/24					
Antimony	0.382	0.0341	ng/m³ Air	0.24466	0.135	101	75-125			SL
Arsenic	1.60	0.00829	ng/m³ Air	1.2233	0.443	94.3	75-125			
Barium	6.68	0.946	ng/m³ Air	2.4466	4.33	95.8	75-125			
Beryllium	0.255	0.00283	ng/m³ Air	0.24466	0.0186	96.7	75-125			
Cadmium	0.155	0.0655	ng/m³ Air	0.12233	ND	127	75-125			
Chromium	4.38	1.95	ng/m³ Air	1.2233	3.17	98.8	75-125			
Cobalt	0.901	0.0386	ng/m³ Air	0.24466	0.636	108	75-125			
Copper	36.2	2.33	ng/m³ Air	12.233	21.7	119	75-125			
Lead	24.7	0.189	ng/m³ Air	24.466	0.448	99.0	75-125			
Manganese	19.5	1.67	ng/m³ Air	2.4466	17.1	98.9	75-125			
Molybdenum	2.81	0.318	ng/m³ Air	1.2233	1.64	95.0	75-125			
Nickel	4.32	0.577	ng/m³ Air	2.4466	1.76	105	75-125			GC-BS
Selenium	1.52	0.00793	ng/m³ Air	1.2233	0.367	94.0	75-125			
Thallium	0.0619	5.21E-4	ng/m³ Air	6.1164E-2	0.00205	97.8	75-125			QB-04
Vanadium	3.17	0.0468	ng/m³ Air	1.2233	2.02	94.0	75-125			
Zinc	ND	67.9	ng/m³ Air	24.466	ND		75-125			U
Post Spike (B4J2908-PS2)			**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24			
Antimony	0.367	0.0304	ng/m³ Air	0.21787	0.155	97.2	75-125			SL
Arsenic	1.20	0.00738	ng/m³ Air	1.0893	0.189	93.2	75-125			
Barium	5.87	0.843	ng/m³ Air	2.1787	3.99	85.9	75-125			
Beryllium	0.221	0.00252	ng/m³ Air	0.21787	0.00928	97.1	75-125			
Cadmium	0.122	0.0584	ng/m³ Air	0.10893	ND	112	75-125			
Chromium	2.59	1.74	ng/m³ Air	1.0893	ND	238	75-125			

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Post Spike (B4J2908-PS2) Continued		**Source: 4102834-30**		Prepared: 10/29/24 Analyzed: 10/30/24						
Cobalt	0.517	0.0343	ng/m³ Air	0.21787	0.295	102	75-125			
Copper	49.9	2.07	ng/m³ Air	10.893	38.0	110	75-125			
Lead	22.1	0.169	ng/m³ Air	21.787	0.538	99.1	75-125			
Manganese	10.3	1.49	ng/m³ Air	2.1787	8.37	86.5	75-125			
Molybdenum	2.82	0.283	ng/m³ Air	1.0893	1.82	91.5	75-125			
Nickel	3.40	0.514	ng/m³ Air	2.1787	1.14	104	75-125			GC-BS
Selenium	1.19	0.00706	ng/m³ Air	1.0893	0.169	93.7	75-125			
Thallium	0.0527	4.64E-4	ng/m³ Air	5.4467E-2	8.10E-4	95.2	75-125			QB-04
Vanadium	2.11	0.0417	ng/m³ Air	1.0893	1.10	92.0	75-125			
Zinc	ND	60.5	ng/m³ Air	21.787	ND		75-125			U
Dilution Check (B4J2908-SRL1)		**Source: 4102834-09**		Prepared & Analyzed: 10/29/24						
Antimony	ND	0.171	ng/m³ Air		ND				10	SL, U
Arsenic	0.467	0.0414	ng/m³ Air		0.443			5.21	10	
Barium	ND	4.73	ng/m³ Air		ND				10	U
Beryllium	0.0184	0.0142	ng/m³ Air		0.0186			0.635	10	
Cadmium	ND	0.328	ng/m³ Air		ND				10	U
Chromium	ND	9.77	ng/m³ Air		ND				10	U
Cobalt	0.655	0.193	ng/m³ Air		0.636			2.89	10	
Copper	22.5	11.6	ng/m³ Air		21.7			3.83	10	
Lead	ND	0.946	ng/m³ Air		ND				10	U
Manganese	17.4	8.36	ng/m³ Air		17.1			1.85	10	
Molybdenum	1.67	1.59	ng/m³ Air		1.64			1.92	10	
Nickel	ND	2.88	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.379	0.0396	ng/m³ Air		0.367			3.26	10	
Thallium	0.00377	0.00261	ng/m³ Air		ND			59.4	10	QB-04
Vanadium	1.97	0.234	ng/m³ Air		2.02			2.48	10	
Zinc	ND	340	ng/m³ Air		ND				10	U
Dilution Check (B4J2908-SRL2)		**Source: 4102834-30**		Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	ND	0.152	ng/m³ Air		0.155				10	SL, U
Arsenic	0.196	0.0369	ng/m³ Air		0.189			3.73	10	
Barium	ND	4.21	ng/m³ Air		ND				10	U
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.299	0.172	ng/m³ Air		0.295			1.33	10	
Copper	36.1	10.4	ng/m³ Air		38.0			5.02	10	
Lead	ND	0.843	ng/m³ Air		ND				10	U
Manganese	8.35	7.44	ng/m³ Air		8.37			0.245	10	

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Dilution Check (B4J2908-SRL2) Continued				**Source: 4102834-30**			Prepared: 10/29/24 Analyzed: 10/30/24			
Molybdenum	1.80	1.41	ng/m³ Air		1.82			1.35	10	
Nickel	ND	2.57	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.176	0.0353	ng/m³ Air		0.169			4.45	10	
Thallium	0.00242	0.00232	ng/m³ Air		ND			99.7	10	QB-04
Vanadium	1.06	0.208	ng/m³ Air		1.10			3.99	10	
Zinc	ND	302	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
LB	Lab blank value above acceptable limit.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/07/2024 and Shanna Vasser 11/11/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/17/2024 – 10/23/2024
Report No: 4102834

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, barium, cobalt, copper, lead, selenium, and vanadium in MFL-FB01-101724-HM; for antimony, arsenic, cobalt, and selenium in MFL-FB01-101924-HM; arsenic in MFL-LB01-102024-HM and MFL-FB01-102124-HM; and barium and copper in MFL-FB01-102324-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

October 24 through October 30, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from October 24 through October 30, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 24 through October 30 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.0 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

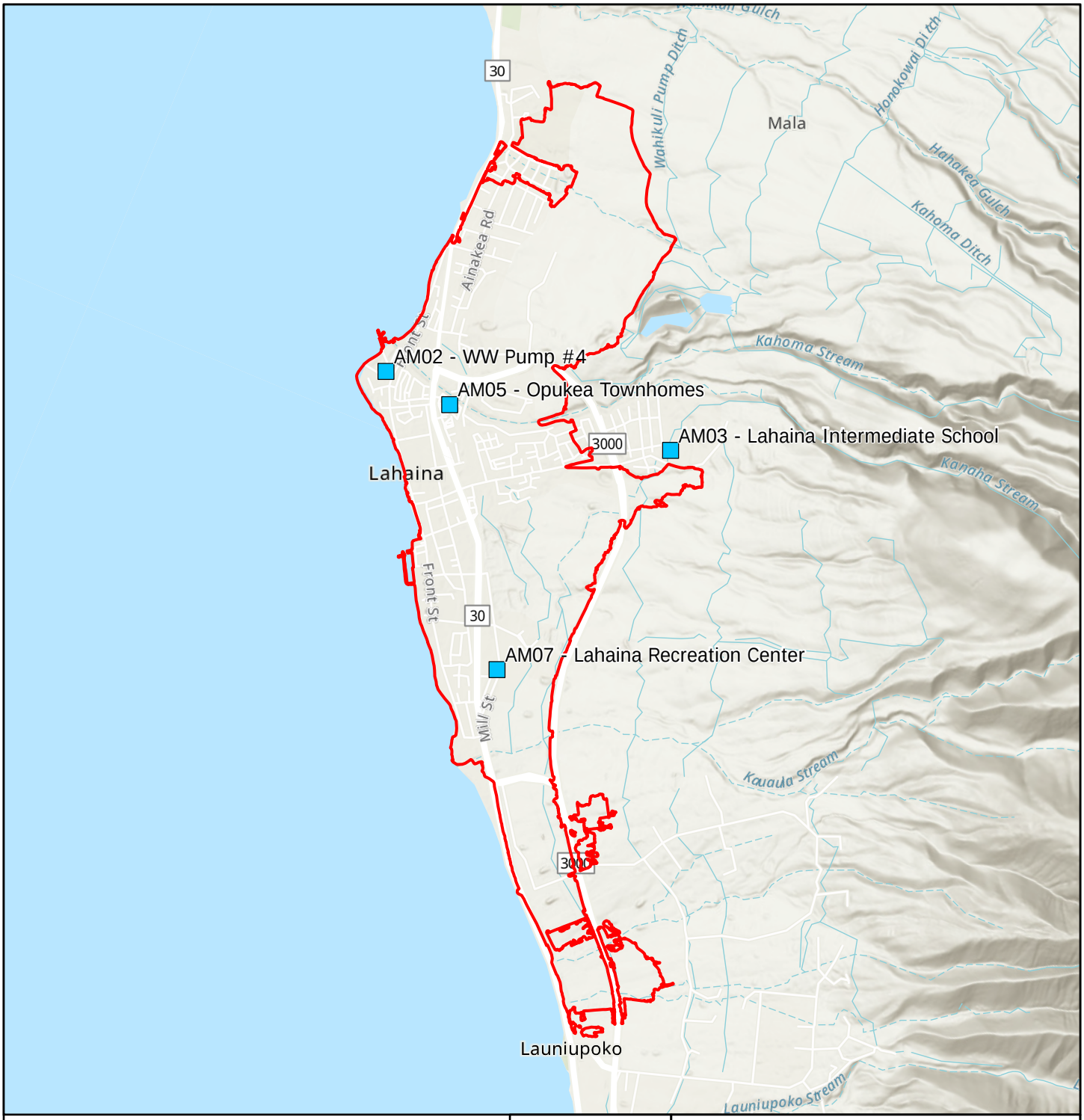
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 24 through October 30, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/24/2024	Opukea Townhomes (AM-05)	6.1
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	100
	Lahaina Recreation Center (AM-07)	7.3
10/25/2024	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Recreation Center (AM-07)	5.1
10/26/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	78
	Lahaina Recreation Center (AM-07)	87
10/27/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	29
	Lahaina Recreation Center (AM-07)	101
10/28/2024	Opukea Townhomes (AM-05)	8.7
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	5.6
10/29/2024	Opukea Townhomes (AM-05)	8.5
	WW Pump Station #4 (AM-02)	9.2
	Lahaina Intermediate School (AM-03)	7.0
	Lahaina Recreation Center (AM-07)	7.8
10/30/2024	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Recreation Center (AM-07)	4.9

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 24 through October 30, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/24/2024	Opukea Townhomes (AM-05)	<0.0024	0.000156	0.000404	0.00552	0.0000167	ND	0.00289	0.000604	0.0553	0.00136	0.0165	0.00225	0.00213	0.000191	0.00000112	0.00233	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000216	0.000418	0.00728	0.0000220	ND	0.00347	0.000797	0.0448	0.000815	0.0249	0.00157	0.00222	0.000201	0.00000134	0.00290	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000735	0.000185	0.00436	0.0000281	ND	0.00291	0.000648	0.0667	0.000347	0.0143	0.00249	0.00305	0.000188	0.000000803	0.00209	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000991	0.000348	0.00374	0.0000179	ND	0.00265	0.000518	0.0273	0.000353	0.0168	0.00141	0.00182	0.000188	0.000000930	0.00210	ND
10/25/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000196	0.00364	0.0000107	ND	ND	0.000333	0.0670	0.000532	0.0102	0.00282	0.00130	0.000158	0.000000807	0.00144	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000171	0.000345	0.00496	0.0000156	ND	0.00220	0.000418	0.0438	0.000760	0.0147	0.00160	0.00133	0.000163	0.00000105	0.00166	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000857	0.000150	0.00342	0.0000208	ND	0.00239	0.000470	0.0654	0.000269	0.0121	0.00239	0.00162	0.000165	0.000000844	0.00149	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000119	0.000403	0.00419	0.0000217	ND	0.00314	0.000683	0.0247	0.000607	0.0214	0.00112	0.00183	0.000172	0.00000117	0.00201	ND
10/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000202	0.00356	0.00000815	ND	0.00211	0.000311	0.0705	0.000507	0.00874	0.00291	0.00133	0.000149	0.000000648	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000905	0.00426	0.0000186	ND	0.00225	0.000577	0.0345	0.000722	0.0258	0.00130	0.00113	0.000181	0.00000144	0.00158	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000734	0.000152	0.00313	0.0000165	ND	0.00222	0.000465	0.0756	0.000254	0.00967	0.00235	0.00536	0.000170	0.000000710	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000303	0.000327	0.00357	0.0000207	ND	0.00259	0.000506	0.0326	0.000335	0.0175	0.00157	0.00239	0.000200	0.00000109	0.00152	ND
10/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000233	0.00314	0.00000406	ND	ND	0.000129	0.0726	0.000672	0.00352	0.00276	0.000938	0.000138	ND	0.000506	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000133	0.000297	0.00290	0.00000350	ND	ND	0.000105	0.0477	0.000288	0.00326	0.00216	0.000686	0.000125	ND	0.000485	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000467	0.0000780	0.00160	0.00000390	ND	ND	0.0000846	0.0714	0.000201	0.00224	0.00261	0.000810	0.000126	ND	0.000410	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000163	0.000220	0.00220	0.00000364	0.0000774	0.00200	0.000157	0.0370	0.000351	0.00364	0.00155	0.00213	0.000137	ND	0.000506	ND
10/28/2024	Opukea Townhomes (AM-05)	<0.0024	0.000151	0.000198	0.00342	0.00000445	ND	0.00197	0.000135	0.0775	0.000418	0.00400	0.00315	0.00102	0.000189	ND	0.000508	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000159	0.000312	0.00364	0.00000484	ND	ND	0.000129	0.0441	0.000455	0.00419	0.00165	0.000883	0.000186	ND	0.000517	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000682	0.0000868	0.00235	0.00000460	ND	ND	0.000146	0.0703	0.000206	0.00342	0.00270	0.00115	0.000165	ND	0.000461	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000134	0.000512	0.00322	0.00000908	ND	0.00350	0.000241	0.0489	0.000282	0.00841	0.00189	0.00152	0.000197	0.000000649	0.000807	ND
10/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.000176	0.000346	0.00595	0.0000111	ND	0.00227	0.000416	0.0762	0.000938	0.0119	0.00271	0.00160	0.000251	0.000000835	0.00168	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000188	0.000342	0.00474	0.0000101	ND	0.00190	0.000331	0.0538	0.000617	0.0115	0.00185	0.00129	0.000243	0.000000773	0.00147	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000871	0.000124	0.00349	0.00000728	ND	ND	0.000187	0.0818	0.000174	0.00528	0.00257	0.00121	0.000214	0.000000457	0.00106	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000132	0.000418	0.00415	0.0000141	ND	0.00254	0.000445	0.0404	0.000341	0.0141	0.00163	0.00155	0.000257	0.000000847	0.00184	ND
10/30/2024	Opukea Townhomes (AM-05)	<0.0024	0.000166	0.000270	0.00478	0.0000117	ND	0.00251	0.000446	0.0796	0.000857	0.0121	0.00274	0.00165	0.000219	0.00000128	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000188	0.000414	0.00609	0.0000175	ND	0.00282	0.000628	0.0457	0.00105	0.0192	0.00175	0.00198	0.000229	0.00000145	0.00213	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000709	0.0000945	0.00238	0.00000862	ND	0.00185	0.000235	0.0669	0.000273	0.00596	0.00227	0.00117	0.000174	0.000000965	0.000738	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000916	0.000518	0.00426	0.0000188	ND	0.00325	0.000643	0.0461	0.000486	0.0209	0.00151	0.00184	0.000237	0.00000162	0.00197	ND
95% Upper Confidence Limit[2]		NA	0.000160	0.000390	0.00442	0.0000170	NA	0.00272	0.000520	0.0634	0.000640	0.0162	0.00234	0.00194	0.000200	0.00000110	0.00175	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 24, through October 30, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/24/2024	AM-02	WW Pump Station #4	0.9	SSE	79	68	760.8
10/24/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	67	751.5
10/24/2024	AM-05	Opukea Townhomes	1.3	SE	80	65	760.3
10/24/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	69	760.2
10/25/2024	AM-02	WW Pump Station #4	0.9	SSE	80	70	760.5
10/25/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	68	751.2
10/25/2024	AM-05	Opukea Townhomes	1.0	SSE	81	67	760.0
10/25/2024	AM-07	Lahaina Recreational Center	1.4	SE	81	70	759.7
10/26/2024	AM-02	WW Pump Station #4	0.7	S	79	79	760.9
10/26/2024	AM-03	Lahaina Intermediate School	1.0	SSE	79	75	751.6
10/26/2024	AM-05	Opukea Townhomes	0.8	ESE	80	74	760.4
10/26/2024	AM-07	Lahaina Recreational Center	1.1	S	81	80	760.2
10/27/2024	AM-02	WW Pump Station #4	0.7	SSE	78	77	762.5
10/27/2024	AM-03	Lahaina Intermediate School	0.8	ESE	78	74	753.1
10/27/2024	AM-05	Opukea Townhomes	0.8	ESE	78	72	761.9
10/27/2024	AM-07	Lahaina Recreational Center	1.1	SE	79	78	761.8
10/28/2024	AM-02	WW Pump Station #4	0.7	SSE	79	74	763.2
10/28/2024	AM-03	Lahaina Intermediate School	0.9	SSE	79	70	753.9
10/28/2024	AM-05	Opukea Townhomes	0.8	ESE	80	70	762.6
10/28/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	74	762.5
10/29/2024	AM-02	WW Pump Station #4	0.7	SSE	79	70	763.6
10/29/2024	AM-03	Lahaina Intermediate School	1.0	SE	79	67	754.2
10/29/2024	AM-05	Opukea Townhomes	1.0	SE	80	65	763.1
10/29/2024	AM-07	Lahaina Recreational Center	1.3	SE	79	72	762.9
10/30/2024	AM-02	WW Pump Station #4	0.9	S	80	66	762.8
10/30/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	64	753.5
10/30/2024	AM-05	Opukea Townhomes	1.1	ESE	81	62	762.3
10/30/2024	AM-07	Lahaina Recreational Center	1.3	S	81	67	762.1

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102424-AB**	**Sample Description:**	**DL264153**
EMSL Sample Number:	042422392-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7118.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0001 **Customer Sample:** MFL-AM05-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B8	None Detected									
B2	D9	None Detected									
B2	G7	None Detected									
B3	H4	None Detected									
B3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102424-AB**	**Sample Description:**	**DL264164**
EMSL Sample Number:	042422392-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7163.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0002 **Customer Sample:** MFL-AM02-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A9	None Detected									
B5	E7	None Detected									
B5	G4	None Detected									
B6	I7	None Detected									
B6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102424-AB**		**Sample Description:**	**DL264174**
EMSL Sample Number:	042422392-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0003 **Customer Sample:** MFL-AM03-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	H6	None Detected									
C2	F8	None Detected									
C2	B4	None Detected									
C3	C7	None Detected									
C3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102424-AB**	**Sample Description:**	**DL264187**
EMSL Sample Number:	042422392-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7245.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0004 **Customer Sample:** MFL-AM07-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I2	None Detected									
C5	F4	None Detected									
C5	D6	None Detected									
C6	C8	None Detected									
C6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102424-AB**	**Sample Description:**	**DL264158**
EMSL Sample Number:	042422392-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0005 **Customer Sample:** MFL-FB01-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A7	None Detected									
D2	C6	None Detected									
D2	E7	None Detected									
D2	G9	None Detected									
D2	I6	None Detected									
D3	J1	None Detected									
D3	H4	None Detected									
D3	F3	None Detected									
D3	D1	None Detected									
D3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102524-AB**	**Sample Description:**	**DL264159**
EMSL Sample Number:	042422392-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0006 **Customer Sample:** MFL-AM05-102524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D10	None Detected									
D5	G5	None Detected									
D6	D4	None Detected									
D6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102524-AB**	**Sample Description:**	**DL264175**
EMSL Sample Number:	042422392-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6737.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0007 **Customer Sample:** MFL-AM02-102524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	D6	None Detected									
E1	G6	None Detected									
E2	G2	None Detected									
E2	D2	None Detected									
E2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102524-AB**	**Sample Description:**	**DL264196**
EMSL Sample Number:	042422392-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7234.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0008 **Customer Sample:** MFL-AM03-102524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C8	None Detected									
E5	F4	None Detected									
E5	J10	None Detected									
E6	G2	None Detected									
E6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102524-AB**	**Sample Description:**	**DL264193**
EMSL Sample Number:	042422392-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7250.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0009 **Customer Sample:** MFL-AM07-102524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I3	None Detected									
F1	F1	None Detected									
F1	B5	None Detected									
F2	C7	None Detected									
F2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102524-AB**		**Sample Description:**	**DL264149**
EMSL Sample Number:	042422392-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0010 **Customer Sample:** MFL-FB01-102524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F6	J1	None Detected									
F6	H1	None Detected									
F6	F1	None Detected									
F6	D5	None Detected									
F6	B3	None Detected									
F8	A5	None Detected									
F8	C7	None Detected									
F8	E9	None Detected									
F8	G10	None Detected									
F8	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-102624-AB** **Sample Description: DL264173**

EMSL Sample Number:	042422392-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7098.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0011 **Customer Sample:** MFL-AM05-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J3	None Detected									
G1	G5	None Detected									
G1	D7	None Detected									
G2	I5	None Detected									
G2	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102624-AB**		**Sample Description:**	**DL264161**
EMSL Sample Number:	042422392-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7050.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0012 **Customer Sample:** MFL-AM02-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B8	None Detected									
G5	F8	None Detected									
G5	G5	None Detected									
G6	C6	None Detected									
G6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102624-AB**	**Sample Description:**	**DL264197**
EMSL Sample Number:	042422392-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7197.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0013 **Customer Sample:** MFL-AM03-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	C8	None Detected									
H1	F7	None Detected									
H1	H9	None Detected									
H2	G3	None Detected									
H2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102624-AB**	**Sample Description:**	**DL264178**
EMSL Sample Number:	042422392-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7180.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0014 **Customer Sample:** MFL-AM07-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	H7	None Detected									
H5	G6	None Detected									
H5	D8	None Detected									
H6	B9	None Detected									
H6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102624-AB** **Sample Description: DL264162**

EMSL Sample Number:	042422392-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0015 **Customer Sample:** MFL-FB01-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J4	None Detected									
I1	H8	None Detected									
I1	F2	None Detected									
I1	D8	None Detected									
I1	B3	None Detected									
I2	J3	None Detected									
I2	H7	None Detected									
I2	F7	None Detected									
I2	D8	None Detected									
I2	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102724-AB**		**Sample Description:**	**DL264152**
EMSL Sample Number:	042422392-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0016 **Customer Sample:** MFL-AM05-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A6	None Detected									
I5	D5	None Detected									
I5	G3	None Detected									
I6	H7	None Detected									
I6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102724-AB**		**Sample Description:**	**DL264182**
EMSL Sample Number:	042422392-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0017 **Customer Sample:** MFL-AM02-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J6	None Detected									
J1	G4	None Detected									
J1	D5	None Detected									
J2	C6	None Detected									
J2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102724-AB**		**Sample Description:**	**DL264165**
EMSL Sample Number:	042422392-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0018 **Customer Sample:** MFL-AM03-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J4	None Detected									
J5	H7	None Detected									
J5	D8	None Detected									
J6	D4	None Detected									
J6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102724-AB**		**Sample Description:**	**DL264160**
EMSL Sample Number:	042422392-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7118.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0019 **Customer Sample:** MFL-AM07-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	D3	None Detected									
K1	G6	None Detected									
K1	H3	None Detected									
K2	J7	None Detected									
K2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102724-AB**		**Sample Description:**	**DL264167**
EMSL Sample Number:	042422392-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0020 **Customer Sample:** MFL-FB01-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	C6	None Detected									
K5	E7	None Detected									
K5	G8	None Detected									
K5	I2	None Detected									
K6	J7	None Detected									
K6	H10	None Detected									
K6	F7	None Detected									
K6	D7	None Detected									
K6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042422392-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422392
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	H5	None Detected									
A1	E5	None Detected									
A1	C6	None Detected									
A1	A3	None Detected									
A2	J7	None Detected									
A2	H5	None Detected									
A2	F1	None Detected									
A2	D4	None Detected									
A2	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042422392

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422392

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1900
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED OCT 30 2024 EMSL CINNAMINSON, NJ 11:29

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-102924-AB	DL264153	7,118.875	10/29/24 1055
MFL-AM02-102924-AB	DL264164	7,163.502	10/29/24 1114
MFL-AM03-102924-AB	DL264174	7,229.255	10/29/24 1255
MFL-AM07-102924-AB	DL264187	7,245.912	10/29/24 1316
MFL-FB01-102924-AB	DL264158	0	10/24/24 1200
MFL-AM05-102524-AB	DL264159	7,235.568	10/25/24 1058
MFL-AM02-102524-AB	DL264175	6,737.947	10/25/24 1112
MFL-AM03-102524-AB	DL264196	7,233.964	10/25/24 1258

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Shaina Epstein	Date/Time: 10/28/24 1100	Received by:	FX	Date/Time 10/30/24 930
Relinquished by:		Date/Time:	Received by:		Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

2050

OrderID: 042422392

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422392

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-102524-AB	DL264193	7,250.354	10/25/24 1322
MFL-FB01-102524-AB	DL264149	0	10/25/24 1200
MFL-AM05-102624-AB	DL264173	(sc) ~~7,815.728~~ 7,098.288	10/26/24 1057
MFL-AM02-102624-AB	DL264161	7,050.300	10/26/24 1124
MFL-AM03-102624-AB	DL264197	7,197.663	10/26/24 1256
MFL-AM07-102624-AB	DL264178	7,180.657	10/26/24 1327
MFL-FB01-102624-AB	DL264162	0	10/26/24 1200
MFL-AM05-102724-AB	DL264152	7,168.464	10/27/24 1101
MFL-AM02-102724-AB	DL264182	7,191.361	10/27/24 1119
MFL-AM03-102724-AB	DL264165	7,147.305	10/27/24 1253
MFL-AM07-102724-AB	DL264160	7,118.152	10/27/24 1318
MFL-FB01-102724-AB	DL264167	0	10/27/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 OCT 30 A 11:29

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shana Epstein	Date/Time: 10/28/24 11oc	Received by:	Date/Time 10/30/24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/13/2024 and Shanna Vasser 11/15/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/24/2024 – 10/30/2024
Report No: 4110439

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Blank detections above the method detection limit were reported for barium in MFL-FB01-102724-HM and for antimony, arsenic, copper, and molybdenum in MFL-LB01-103024-HM.

Notes: None

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102824-AB**		**Sample Description:**	**DL267539**
EMSL Sample Number:	042422726-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7089.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0001 **Customer Sample:** MFL-AM05-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A6	J3	None Detected									
A6	H7	None Detected									
A6	C6	None Detected									
A7	B7	None Detected									
A7	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	11/08/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102824-AB**		**Sample Description:**	**DL267481**
EMSL Sample Number:	042422726-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0002 **Customer Sample:** MFL-AM02-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I3	None Detected									
B2	G5	None Detected									
B2	B7	None Detected									
B3	A5	None Detected									
B3	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102824-AB**		**Sample Description:**	**DL267361**
EMSL Sample Number:	042422726-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0003 **Customer Sample:** MFL-AM03-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A7	None Detected									
B5	E9	None Detected									
B5	H6	None Detected									
B6	J5	None Detected									
B6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102824-AB**	**Sample Description:**	**DL267608**
EMSL Sample Number:	042422726-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7146.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0004 **Customer Sample:** MFL-AM07-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J3	None Detected									
C2	G5	None Detected									
C2	B5	None Detected									
C3	H5	None Detected									
C3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102824-AB**		**Sample Description:**	**DL267604**
EMSL Sample Number:	042422726-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042422726**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0005 **Customer Sample:** MFL-FB01-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A5	None Detected									
C5	C8	None Detected									
C5	E7	None Detected									
C5	G10	None Detected									
C5	I7	None Detected									
C6	A9	None Detected									
C6	C9	None Detected									
C6	E10	None Detected									
C6	G7	None Detected									
C6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024 & 11/11/202
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-102824-AB**		**Sample Description:**	**DL267504**
EMSL Sample Number:	042422726-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0006 **Customer Sample:** MFL-LB01-102824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D3	A8	None Detected									
D3	C6	None Detected									
D3	J7	None Detected									
D3	E3	None Detected									
D3	G6	None Detected									
D4	B7	None Detected									
D4	D4	None Detected									
D4	F8	None Detected									
D4	H2	None Detected									
D4	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102924-AB**	**Sample Description:**	**DL267594**
EMSL Sample Number:	042422726-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7244.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0007 **Customer Sample:** MFL-AM05-102924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J6	None Detected									
D5	G8	None Detected									
D5	D6	None Detected									
D6	C4	None Detected									
D6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102924-AB**	**Sample Description:**	**DL267345**
EMSL Sample Number:	042422726-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7249.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0008 **Customer Sample:** MFL-AM02-102924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B8	None Detected									
E2	D7	None Detected									
E2	J5	None Detected									
E3	H3	None Detected									
E3	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102924-AB**		**Sample Description:**	**DL267343**
EMSL Sample Number:	042422726-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0009 **Customer Sample:** MFL-AM03-102924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I6	None Detected									
E5	G4	None Detected									
E5	B7	None Detected									
E6	I6	None Detected									
E6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102924-AB**		**Sample Description:**	**DL267693**
EMSL Sample Number:	042422726-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7248.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0010 **Customer Sample:** MFL-AM07-102924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	H7	None Detected									
F2	C7	None Detected									
F3	H4	None Detected									
F3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102924-AB**		**Sample Description:**	**DL267376**
EMSL Sample Number:	042422726-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0011 **Customer Sample:** MFL-FB01-102924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A7	None Detected									
F5	C7	None Detected									
F5	E9	None Detected									
F5	G6	None Detected									
F5	I5	None Detected									
F6	J3	None Detected									
F6	H7	None Detected									
F6	F9	None Detected									
F6	D4	None Detected									
F6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-103024-AB**	**Sample Description:**	**DL267342**
EMSL Sample Number:	042422726-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7241.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0012 **Customer Sample:** MFL-AM05-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J2	None Detected									
G2	G5	None Detected									
G2	C10	None Detected									
G3	I5	None Detected									
G3	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-103024-AB** **Sample Description: DL267463**

EMSL Sample Number:	042422726-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6984.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0013 **Customer Sample:** MFL-AM02-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J6	None Detected									
G5	F8	None Detected									
G5	A6	None Detected									
G6	C5	None Detected									
G6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-103024-AB**		**Sample Description:**	**DL267340**
EMSL Sample Number:	042422726-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0014 **Customer Sample:** MFL-AM03-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B7	None Detected									
H2	D4	None Detected									
H2	I1	None Detected									
H3	A3	None Detected									
H3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-103024-AB**		**Sample Description:**	**DL267397**
EMSL Sample Number:	042422726-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0015 **Customer Sample:** MFL-AM07-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B6	None Detected									
H5	E3	None Detected									
H5	I5	None Detected									
H6	G5	None Detected									
H6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-103024-AB**		**Sample Description:**	**DL267420**
EMSL Sample Number:	042422726-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042422726**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0016 **Customer Sample:** MFL-FB01-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J3	None Detected									
I1	H5	None Detected									
I1	F2	None Detected									
I1	D3	None Detected									
I1	B4	None Detected									
I2	J5	None Detected									
I2	H5	None Detected									
I2	F1	None Detected									
I2	D1	None Detected									
I2	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042422726-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422726
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422726-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A1	None Detected									
A2	C4	None Detected									
A2	E3	None Detected									
A2	G1	None Detected									
A2	I3	None Detected									
A3	J3	None Detected									
A3	H1	None Detected									
A3	F3	None Detected									
A3	D1	None Detected									
A3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042422726

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422726

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: Chelsea.Saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

RECEIVED EMSL CINNAMINSON 2024 NOV -4 AM 7

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: A209085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina A.L. Epstein
Sampled By Signature:
No. of Samples in Shipment 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-102824-AB	DL267539	7,089.698	10/28/24 1053
MFL-AM02-102824-AB	DL267481	7,158.004	10/28/24 1110
MFL-AM03-102824-AB	DL267361	7,144.416	10/28/24 1255
MFL-AM07-102824-AB	DL267608	7,146.285	10/28/24 1318
MFL-FB01-102824-AB	DL267604	0	10/28/24 1200
MFL-LB01-102824-AB	DL267504	~~7,158.~~ 0	10/28/24 1200
MFL-AM05-102924-AB	DL267594	7,244.916	10/29/24 1057
MFL-AM02-102924-AB	DL267345	7,299.564	10/29/24 1123

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

16 CJR

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
Shaina Epstein	10/31/24 1100	FedEx	11/4/24 8:50A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422726

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03-102924-AB	DL267343	7,199.673	10/29/24 1306
MFL-AM07-102924-AB	DL267693	7,248.870	10/29/24 1326
MFL-FB01-102924-AB	DL267376	0	10/29/24 1200
MFL-AM05-103024-AB	DL267342	7,241.760	10/30/24 1100
MFL-AM02-103024-AB	DL267463	6,984.902	10/30/24 1123
MFL-AM03-103024-AB	DL267340	7,208.544	10/30/24 1256
MFL-AM07-103024-AB	DL267397	7,200.159	10/30/24 1318
MFL-FB01-103024-AB	DL267420	0	10/30/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 NOV -4 A 7:17

Method of Shipment: Fedex			Sample Condition Upon Receipt:		
Relinquished by: Shaina Epstein	Date/Time: 10/31/24 1100		Received by: FedEx	Date/Time: 11/4/24 8:50A	
Relinquished by:	Date/Time:		Received by:	Date/Time:	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/11/2024 and Shanna Vasser 11/12/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/28/2024 – 10/30/2024
Report No: 42422726

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

November 13, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 11/04/24 12:46.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-102424-HM	4110439-01	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM02-102424-HM	4110439-02	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM03-102424-HM	4110439-03	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM07-102424-HM	4110439-04	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM05-102524-HM	4110439-05	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM02-102524-HM	4110439-06	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM03-102524-HM	4110439-07	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM07-102524-HM	4110439-08	Air	10/25/24 23:59	11/04/24 12:46
MFL-FB01-102524-HM	4110439-09	Air	10/25/24 00:00	11/04/24 12:46
MFL-AM05-102624-HM	4110439-10	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM02-102624-HM	4110439-11	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM03-102624-HM	4110439-12	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM07-102624-HM	4110439-13	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM05-102724-HM	4110439-14	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM02-102724-HM	4110439-15	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM03-102724-HM	4110439-16	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM07-102724-HM	4110439-17	Air	10/27/24 23:59	11/04/24 12:46
MFL-FB01-102724-HM	4110439-18	Air	10/27/24 00:00	11/04/24 12:46
MFL-AM05-102824-HM	4110439-19	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM02-102824-HM	4110439-20	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM03-102824-HM	4110439-21	Air	10/28/24 23:59	11/04/24 12:46

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-102824-HM	4110439-22	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM05-102924-HM	4110439-23	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM02-102924-HM	4110439-24	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM03-102924-HM	4110439-25	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM07-102924-HM	4110439-26	Air	10/29/24 23:59	11/04/24 12:46
MFL-FB01-102924-HM	4110439-27	Air	10/29/24 00:00	11/04/24 12:46
MFL-AM05-103024-HM	4110439-28	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM02-103024-HM	4110439-29	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM03-103024-HM	4110439-30	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM07-103024-HM	4110439-31	Air	10/30/24 23:59	11/04/24 12:46
MFL-LB01-103024-HM	4110439-32	Air	10/30/24 00:00	11/04/24 12:46

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102424-HM
Matrix: Air
Lab ID: 4110439-01
Sample Volume: 1843.726 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:23

Comments: Q8529423 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.404**		**0.00827**
Barium	**7440-39-3**	**5.52**		**0.944**
Beryllium	**7440-41-7**	**0.0167**		**0.00282**
Cadmium	7440-43-9	0.0479	U	0.0654
Chromium	**7440-47-3**	**2.89**		**1.95**
Cobalt	**7440-48-4**	**0.604**		**0.0385**
Copper	**7440-50-8**	**55.3**		**2.32**
Lead	**7439-92-1**	**1.36**		**0.189**
Manganese	**7439-96-5**	**16.5**		**1.67**
Molybdenum	**7439-98-7**	**2.25**		**0.317**
Nickel	**7440-02-0**	**2.13**		**0.575**
Selenium	**7782-49-2**	**0.191**		**0.00791**
Thallium	**7440-28-0**	**0.00112**		**5.20E-4**
Vanadium	**7440-62-2**	**2.33**		**0.0467**
Zinc	7440-66-6	24.2	U	67.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102424-HM
Matrix: Air
Lab ID: 4110439-02
Sample Volume: 2039.229 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:34

Comments: Q8529422 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.216**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.418**		**0.00748**
Barium	**7440-39-3**	**7.28**		**0.854**
Beryllium	**7440-41-7**	**0.0220**		**0.00255**
Cadmium	7440-43-9	0.0206	U	0.0591
Chromium	**7440-47-3**	**3.47**		**1.76**
Cobalt	**7440-48-4**	**0.797**		**0.0348**
Copper	**7440-50-8**	**44.8**		**2.10**
Lead	**7439-92-1**	**0.815**		**0.171**
Manganese	**7439-96-5**	**24.9**		**1.51**
Molybdenum	**7439-98-7**	**1.57**		**0.286**
Nickel	**7440-02-0**	**2.22**		**0.520**
Selenium	**7782-49-2**	**0.201**		**0.00715**
Thallium	**7440-28-0**	**0.00134**		**4.70E-4**
Vanadium	**7440-62-2**	**2.90**		**0.0422**
Zinc	7440-66-6	19.5	U	61.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102424-HM
Matrix: Air
Lab ID: 4110439-03
Sample Volume: 2044.064 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:44

Comments: Q8529418 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0735**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.185**		**0.00746**
Barium	**7440-39-3**	**4.36**		**0.852**
Beryllium	**7440-41-7**	**0.0281**		**0.00255**
Cadmium	7440-43-9	0.0130	U	0.0590
Chromium	**7440-47-3**	**2.91**		**1.76**
Cobalt	**7440-48-4**	**0.648**		**0.0347**
Copper	**7440-50-8**	**66.7**		**2.09**
Lead	**7439-92-1**	**0.347**		**0.170**
Manganese	**7439-96-5**	**14.3**		**1.50**
Molybdenum	**7439-98-7**	**2.49**		**0.286**
Nickel	**7440-02-0**	**3.05**		**0.519**
Selenium	**7782-49-2**	**0.188**		**0.00713**
Thallium	**7440-28-0**	**8.03E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**2.09**		**0.0421**
Zinc	7440-66-6	12.7	U	61.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102424-HM
Matrix: Air
Lab ID: 4110439-04
Sample Volume: 1841.864 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:54

Comments: Q8529417 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0991**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.348**		**0.00828**
Barium	**7440-39-3**	**3.74**		**0.945**
Beryllium	**7440-41-7**	**0.0179**		**0.00283**
Cadmium	7440-43-9	0.0117	U	0.0655
Chromium	**7440-47-3**	**2.65**		**1.95**
Cobalt	**7440-48-4**	**0.518**		**0.0385**
Copper	**7440-50-8**	**27.3**		**2.32**
Lead	**7439-92-1**	**0.353**		**0.189**
Manganese	**7439-96-5**	**16.8**		**1.67**
Molybdenum	**7439-98-7**	**1.41**		**0.317**
Nickel	**7440-02-0**	**1.82**		**0.576**
Selenium	**7782-49-2**	**0.188**		**0.00791**
Thallium	**7440-28-0**	**9.30E-4**		**5.20E-4**
Vanadium	**7440-62-2**	**2.10**		**0.0467**
Zinc	7440-66-6	15.3	U	67.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102524-HM
Matrix: Air
Lab ID: 4110439-05
Sample Volume: 1857.693 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 19:00

Comments: Q8529416 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.196**		**0.00821**
Barium	**7440-39-3**	**3.64**		**0.937**
Beryllium	**7440-41-7**	**0.0107**		**0.00280**
Cadmium	7440-43-9	0.0123	U	0.0649
Chromium	7440-47-3	1.93	U	1.94
Cobalt	**7440-48-4**	**0.333**		**0.0382**
Copper	**7440-50-8**	**67.0**		**2.30**
Lead	**7439-92-1**	**0.532**		**0.187**
Manganese	**7439-96-5**	**10.2**		**1.66**
Molybdenum	**7439-98-7**	**2.82**		**0.314**
Nickel	**7440-02-0**	**1.30**		**0.571**
Selenium	**7782-49-2**	**0.158**		**0.00785**
Thallium	**7440-28-0**	**8.07E-4**		**5.16E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0463**
Zinc	7440-66-6	15.1	U	67.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102524-HM
Matrix: Air
Lab ID: 4110439-06
Sample Volume: 2051.772 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:05

Comments: Q8529414 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.171**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.345**		**0.00743**
Barium	**7440-39-3**	**4.96**		**0.848**
Beryllium	**7440-41-7**	**0.0156**		**0.00254**
Cadmium	7440-43-9	0.0122	U	0.0588
Chromium	**7440-47-3**	**2.20**		**1.75**
Cobalt	**7440-48-4**	**0.418**		**0.0346**
Copper	**7440-50-8**	**43.8**		**2.09**
Lead	**7439-92-1**	**0.760**		**0.170**
Manganese	**7439-96-5**	**14.7**		**1.50**
Molybdenum	**7439-98-7**	**1.60**		**0.285**
Nickel	**7440-02-0**	**1.33**		**0.517**
Selenium	**7782-49-2**	**0.163**		**0.00711**
Thallium	**7440-28-0**	**0.00105**		**4.67E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0419**
Zinc	7440-66-6	17.4	U	60.9

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102524-HM
Matrix: Air
Lab ID: 4110439-07
Sample Volume: 1956.015 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:15

Comments: Q8529412 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0857**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.150**		**0.00779**
Barium	**7440-39-3**	**3.42**		**0.890**
Beryllium	**7440-41-7**	**0.0208**		**0.00266**
Cadmium	7440-43-9	0.00664	U	0.0616
Chromium	**7440-47-3**	**2.39**		**1.84**
Cobalt	**7440-48-4**	**0.470**		**0.0363**
Copper	**7440-50-8**	**65.4**		**2.19**
Lead	**7439-92-1**	**0.269**		**0.178**
Manganese	**7439-96-5**	**12.1**		**1.57**
Molybdenum	**7439-98-7**	**2.39**		**0.299**
Nickel	**7440-02-0**	**1.62**		**0.542**
Selenium	**7782-49-2**	**0.165**		**0.00745**
Thallium	**7440-28-0**	**8.44E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0440**
Zinc	7440-66-6	13.6	U	63.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102524-HM
Matrix: Air
Lab ID: 4110439-08
Sample Volume: 1853.99 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:26

Comments: Q8529411 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.403**		**0.00822**
Barium	**7440-39-3**	**4.19**		**0.939**
Beryllium	**7440-41-7**	**0.0217**		**0.00281**
Cadmium	7440-43-9	0.0324	U	0.0650
Chromium	**7440-47-3**	**3.14**		**1.94**
Cobalt	**7440-48-4**	**0.683**		**0.0383**
Copper	**7440-50-8**	**24.7**		**2.31**
Lead	**7439-92-1**	**0.607**		**0.188**
Manganese	**7439-96-5**	**21.4**		**1.66**
Molybdenum	**7439-98-7**	**1.12**		**0.315**
Nickel	**7440-02-0**	**1.83**		**0.572**
Selenium	**7782-49-2**	**0.172**		**0.00786**
Thallium	**7440-28-0**	**0.00117**		**5.17E-4**
Vanadium	**7440-62-2**	**2.01**		**0.0464**
Zinc	7440-66-6	15.2	U	67.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102524-HM
Matrix: Air
Lab ID: 4110439-09
Sample Volume: 1857.693 m³
Filter ID:
Sampled: 10/25/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:36

Comments: Q8529407 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0224	SL, U	0.0338
Arsenic	7440-38-2	0.00338	U	0.00821
Barium	7440-39-3	0.918	U	0.937
Beryllium	7440-41-7	7.61E-4	U	0.00280
Cadmium	7440-43-9	8.26E-4	U	0.0649
Chromium	7440-47-3	0.841	U	1.94
Cobalt	7440-48-4	0.0144	U	0.0382
Copper	7440-50-8	0.959	U	2.30
Lead	7439-92-1	0.0280	U	0.187
Manganese	7439-96-5	0.239	U	1.66
Molybdenum	7439-98-7	0.162	U	0.314
Nickel	7440-02-0	0.494	U	0.571
Selenium	7782-49-2	0.00541	U	0.00785
Thallium	7440-28-0	6.90E-5	U	5.16E-4
Vanadium	7440-62-2	0.0191	U	0.0463
Zinc	7440-66-6	5.67	U	67.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102624-HM
Matrix: Air
Lab ID: 4110439-10
Sample Volume: 1875.028 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:46

Comments: Q8529410 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.202**		**0.00813**
Barium	**7440-39-3**	**3.56**		**0.928**
Beryllium	**7440-41-7**	**0.00815**		**0.00278**
Cadmium	7440-43-9	0.0198	U	0.0643
Chromium	**7440-47-3**	**2.11**		**1.92**
Cobalt	**7440-48-4**	**0.311**		**0.0378**
Copper	**7440-50-8**	**70.5**		**2.28**
Lead	**7439-92-1**	**0.507**		**0.186**
Manganese	**7439-96-5**	**8.74**		**1.64**
Molybdenum	**7439-98-7**	**2.91**		**0.312**
Nickel	**7440-02-0**	**1.33**		**0.566**
Selenium	**7782-49-2**	**0.149**		**0.00777**
Thallium	**7440-28-0**	**6.48E-4**		**5.11E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0459**
Zinc	7440-66-6	18.3	U	66.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102624-HM
Matrix: Air
Lab ID: 4110439-11
Sample Volume: 2086.048 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:57

Comments: Q8529409 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.905**		**0.00731**
Barium	**7440-39-3**	**4.26**		**0.835**
Beryllium	**7440-41-7**	**0.0186**		**0.00250**
Cadmium	7440-43-9	0.0158	U	0.0578
Chromium	**7440-47-3**	**2.25**		**1.72**
Cobalt	**7440-48-4**	**0.577**		**0.0340**
Copper	**7440-50-8**	**34.5**		**2.05**
Lead	**7439-92-1**	**0.722**		**0.167**
Manganese	**7439-96-5**	**25.8**		**1.47**
Molybdenum	**7439-98-7**	**1.30**		**0.280**
Nickel	**7440-02-0**	**1.13**		**0.509**
Selenium	**7782-49-2**	**0.181**		**0.00699**
Thallium	**7440-28-0**	**0.00144**		**4.59E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0413**
Zinc	7440-66-6	14.4	U	59.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102624-HM
Matrix: Air
Lab ID: 4110439-12
Sample Volume: 2042.351 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:28

Comments: Q8529406 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0734**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.152**		**0.00746**
Barium	**7440-39-3**	**3.13**		**0.852**
Beryllium	**7440-41-7**	**0.0165**		**0.00255**
Cadmium	7440-43-9	0.0155	U	0.0590
Chromium	**7440-47-3**	**2.22**		**1.76**
Cobalt	**7440-48-4**	**0.465**		**0.0347**
Copper	**7440-50-8**	**75.6**		**2.10**
Lead	**7439-92-1**	**0.254**		**0.170**
Manganese	**7439-96-5**	**9.67**		**1.51**
Molybdenum	**7439-98-7**	**2.35**		**0.286**
Nickel	**7440-02-0**	**5.36**		**0.519**
Selenium	**7782-49-2**	**0.170**		**0.00714**
Thallium	**7440-28-0**	**7.10E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0421**
Zinc	7440-66-6	17.1	U	61.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102624-HM
Matrix: Air
Lab ID: 4110439-13
Sample Volume: 1499.688 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:38

Comments: Q8529405 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.303**	SL	**0.0419**
Arsenic	**7440-38-2**	**0.327**		**0.0102**
Barium	**7440-39-3**	**3.57**		**1.16**
Beryllium	**7440-41-7**	**0.0207**		**0.00347**
Cadmium	7440-43-9	0.0798	U	0.0804
Chromium	**7440-47-3**	**2.59**		**2.40**
Cobalt	**7440-48-4**	**0.506**		**0.0473**
Copper	**7440-50-8**	**32.6**		**2.85**
Lead	**7439-92-1**	**0.335**		**0.232**
Manganese	**7439-96-5**	**17.5**		**2.05**
Molybdenum	**7439-98-7**	**1.57**		**0.389**
Nickel	**7440-02-0**	**2.39**		**0.707**
Selenium	**7782-49-2**	**0.200**		**0.00972**
Thallium	**7440-28-0**	**0.00109**		**6.39E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0574**
Zinc	7440-66-6	21.4	U	83.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102724-HM
Matrix: Air
Lab ID: 4110439-14
Sample Volume: 1895.818 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:49

Comments: Q8529403 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.233**		**0.00804**
Barium	**7440-39-3**	**3.14**		**0.918**
Beryllium	**7440-41-7**	**0.00406**		**0.00275**
Cadmium	7440-43-9	0.0268	U	0.0636
Chromium	7440-47-3	1.30	U	1.90
Cobalt	**7440-48-4**	**0.129**		**0.0374**
Copper	**7440-50-8**	**72.6**		**2.26**
Lead	**7439-92-1**	**0.672**		**0.184**
Manganese	**7439-96-5**	**3.52**		**1.62**
Molybdenum	**7439-98-7**	**2.76**		**0.308**
Nickel	**7440-02-0**	**0.938**		**0.560**
Selenium	**7782-49-2**	**0.138**		**0.00769**
Thallium	7440-28-0	3.12E-4	U	5.05E-4
Vanadium	**7440-62-2**	**0.506**		**0.0454**
Zinc	7440-66-6	21.1	U	65.9

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102724-HM
Matrix: Air
Lab ID: 4110439-15
Sample Volume: 2153.725 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:59

Comments: Q8529402 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.297**		**0.00708**
Barium	**7440-39-3**	**2.90**		**0.808**
Beryllium	**7440-41-7**	**0.00350**		**0.00242**
Cadmium	7440-43-9	0.00594	U	0.0560
Chromium	7440-47-3	1.14	U	1.67
Cobalt	**7440-48-4**	**0.105**		**0.0329**
Copper	**7440-50-8**	**47.7**		**1.99**
Lead	**7439-92-1**	**0.288**		**0.162**
Manganese	**7439-96-5**	**3.26**		**1.43**
Molybdenum	**7439-98-7**	**2.16**		**0.271**
Nickel	**7440-02-0**	**0.686**		**0.493**
Selenium	**7782-49-2**	**0.125**		**0.00677**
Thallium	7440-28-0	3.25E-4	U	4.45E-4
Vanadium	**7440-62-2**	**0.485**		**0.0400**
Zinc	7440-66-6	12.1	U	58.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102724-HM
Matrix: Air
Lab ID: 4110439-16
Sample Volume: 2039.554 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:09

Comments: Q8529399 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0467**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0780**		**0.00747**
Barium	**7440-39-3**	**1.60**		**0.854**
Beryllium	**7440-41-7**	**0.00390**		**0.00255**
Cadmium	7440-43-9	0.0129	U	0.0591
Chromium	7440-47-3	1.14	U	1.76
Cobalt	**7440-48-4**	**0.0846**		**0.0348**
Copper	**7440-50-8**	**71.4**		**2.10**
Lead	**7439-92-1**	**0.201**		**0.171**
Manganese	**7439-96-5**	**2.24**		**1.51**
Molybdenum	**7439-98-7**	**2.61**		**0.286**
Nickel	**7440-02-0**	**0.810**		**0.520**
Selenium	**7782-49-2**	**0.126**		**0.00715**
Thallium	7440-28-0	3.29E-4	U	4.70E-4
Vanadium	**7440-62-2**	**0.410**		**0.0422**
Zinc	7440-66-6	16.1	U	61.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102724-HM
Matrix: Air
Lab ID: 4110439-17
Sample Volume: 2018.43 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 16:56

Comments: Q8529397 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.220**		**0.00755**
Barium	**7440-39-3**	**2.20**		**0.862**
Beryllium	**7440-41-7**	**0.00364**		**0.00258**
Cadmium	**7440-43-9**	**0.0774**		**0.0597**
Chromium	**7440-47-3**	**2.00**		**1.78**
Cobalt	**7440-48-4**	**0.157**		**0.0351**
Copper	**7440-50-8**	**37.0**		**2.12**
Lead	**7439-92-1**	**0.351**		**0.172**
Manganese	**7439-96-5**	**3.64**		**1.52**
Molybdenum	**7439-98-7**	**1.55**		**0.289**
Nickel	**7440-02-0**	**2.13**	QM-07	**0.526**
Selenium	**7782-49-2**	**0.137**		**0.00722**
Thallium	7440-28-0	4.41E-4	U	4.75E-4
Vanadium	**7440-62-2**	**0.506**		**0.0426**
Zinc	7440-66-6	15.8	U	61.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102724-HM
Matrix: Air
Lab ID: 4110439-18
Sample Volume: 1895.818 m³
Filter ID:
Sampled: 10/27/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:20

Comments: Q8529389 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0208	SL, U	0.0331
Arsenic	7440-38-2	0.00204	U	0.00804
Barium	**7440-39-3**	**0.960**	FB-01	**0.918**
Beryllium	7440-41-7	6.72E-4	U	0.00275
Cadmium	7440-43-9	9.17E-4	U	0.0636
Chromium	7440-47-3	0.742	U	1.90
Cobalt	7440-48-4	0.0108	U	0.0374
Copper	7440-50-8	0.315	U	2.26
Lead	7439-92-1	0.0232	U	0.184
Manganese	7439-96-5	0.176	U	1.62
Molybdenum	7439-98-7	0.126	U	0.308
Nickel	7440-02-0	0.370	U	0.560
Selenium	7782-49-2	0.00472	U	0.00769
Thallium	7440-28-0	7.22E-5	U	5.05E-4
Vanadium	7440-62-2	0.0185	U	0.0454
Zinc	7440-66-6	4.40	U	65.9

CERTIFICATE OF ANALYSIS

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102824-HM
Matrix: Air
Lab ID: 4110439-19
Sample Volume: 1937.341 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:30

Comments: Q8529395 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.198**		**0.00787**
Barium	**7440-39-3**	**3.42**		**0.899**
Beryllium	**7440-41-7**	**0.00445**		**0.00269**
Cadmium	7440-43-9	0.0123	U	0.0622
Chromium	**7440-47-3**	**1.97**		**1.86**
Cobalt	**7440-48-4**	**0.135**		**0.0366**
Copper	**7440-50-8**	**77.5**		**2.21**
Lead	**7439-92-1**	**0.418**		**0.180**
Manganese	**7439-96-5**	**4.00**		**1.59**
Molybdenum	**7439-98-7**	**3.15**		**0.301**
Nickel	**7440-02-0**	**1.02**		**0.548**
Selenium	**7782-49-2**	**0.189**		**0.00752**
Thallium	7440-28-0	4.46E-4	U	4.95E-4
Vanadium	**7440-62-2**	**0.508**		**0.0444**
Zinc	7440-66-6	17.6	U	64.5

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102824-HM
Matrix: Air
Lab ID: 4110439-20
Sample Volume: 2119.903 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:41

Comments: Q8529393 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.312**		**0.00719**
Barium	**7440-39-3**	**3.64**		**0.821**
Beryllium	**7440-41-7**	**0.00484**		**0.00246**
Cadmium	7440-43-9	0.00954	U	0.0569
Chromium	7440-47-3	1.41	U	1.70
Cobalt	**7440-48-4**	**0.129**		**0.0335**
Copper	**7440-50-8**	**44.1**		**2.02**
Lead	**7439-92-1**	**0.455**		**0.164**
Manganese	**7439-96-5**	**4.19**		**1.45**
Molybdenum	**7439-98-7**	**1.65**		**0.276**
Nickel	**7440-02-0**	**0.883**		**0.500**
Selenium	**7782-49-2**	**0.186**		**0.00688**
Thallium	7440-28-0	3.08E-4	U	4.52E-4
Vanadium	**7440-62-2**	**0.517**		**0.0406**
Zinc	7440-66-6	12.5	U	58.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102824-HM
Matrix: Air
Lab ID: 4110439-21
Sample Volume: 2055.031 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:51

Comments: Q8529390 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0682**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.0868**		**0.00742**
Barium	**7440-39-3**	**2.35**		**0.847**
Beryllium	**7440-41-7**	**0.00460**		**0.00253**
Cadmium	7440-43-9	0.00805	U	0.0587
Chromium	7440-47-3	1.29	U	1.75
Cobalt	**7440-48-4**	**0.146**		**0.0345**
Copper	**7440-50-8**	**70.3**		**2.08**
Lead	**7439-92-1**	**0.206**		**0.169**
Manganese	**7439-96-5**	**3.42**		**1.50**
Molybdenum	**7439-98-7**	**2.70**		**0.284**
Nickel	**7440-02-0**	**1.15**		**0.516**
Selenium	**7782-49-2**	**0.165**		**0.00709**
Thallium	7440-28-0	3.22E-4	U	4.66E-4
Vanadium	**7440-62-2**	**0.461**		**0.0419**
Zinc	7440-66-6	46.6	U	60.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102824-HM
Matrix: Air
Lab ID: 4110439-22
Sample Volume: 1771.31 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:33

Comments: Q8529388 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.512**		**0.00861**
Barium	**7440-39-3**	**3.22**		**0.983**
Beryllium	**7440-41-7**	**0.00908**		**0.00294**
Cadmium	7440-43-9	0.0151	U	0.0681
Chromium	**7440-47-3**	**3.50**		**2.03**
Cobalt	**7440-48-4**	**0.241**		**0.0400**
Copper	**7440-50-8**	**48.9**		**2.42**
Lead	**7439-92-1**	**0.282**		**0.197**
Manganese	**7439-96-5**	**8.41**		**1.74**
Molybdenum	**7439-98-7**	**1.89**		**0.330**
Nickel	**7440-02-0**	**1.52**		**0.599**
Selenium	**7782-49-2**	**0.197**		**0.00823**
Thallium	**7440-28-0**	**6.49E-4**		**5.41E-4**
Vanadium	**7440-62-2**	**0.807**		**0.0486**
Zinc	7440-66-6	13.0	U	70.5

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102924-HM
Matrix: Air
Lab ID: 4110439-23
Sample Volume: 1954.456 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:43

Comments: Q8529387 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.176**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.346**		**0.00780**
Barium	**7440-39-3**	**5.95**		**0.891**
Beryllium	**7440-41-7**	**0.0111**		**0.00266**
Cadmium	7440-43-9	0.0125	U	0.0617
Chromium	**7440-47-3**	**2.27**		**1.84**
Cobalt	**7440-48-4**	**0.416**		**0.0363**
Copper	**7440-50-8**	**76.2**		**2.19**
Lead	**7439-92-1**	**0.938**		**0.178**
Manganese	**7439-96-5**	**11.9**		**1.57**
Molybdenum	**7439-98-7**	**2.71**		**0.299**
Nickel	**7440-02-0**	**1.60**		**0.543**
Selenium	**7782-49-2**	**0.251**		**0.00746**
Thallium	**7440-28-0**	**8.35E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**1.68**		**0.0440**
Zinc	7440-66-6	22.0	U	63.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102924-HM
Matrix: Air
Lab ID: 4110439-24
Sample Volume: 2151.144 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:53

Comments: Q8529386 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.188**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.342**		**0.00709**
Barium	**7440-39-3**	**4.74**		**0.809**
Beryllium	**7440-41-7**	**0.0101**		**0.00242**
Cadmium	7440-43-9	0.0113	U	0.0560
Chromium	**7440-47-3**	**1.90**		**1.67**
Cobalt	**7440-48-4**	**0.331**		**0.0330**
Copper	**7440-50-8**	**53.8**		**1.99**
Lead	**7439-92-1**	**0.617**		**0.162**
Manganese	**7439-96-5**	**11.5**		**1.43**
Molybdenum	**7439-98-7**	**1.85**		**0.272**
Nickel	**7440-02-0**	**1.29**		**0.493**
Selenium	**7782-49-2**	**0.243**		**0.00678**
Thallium	**7440-28-0**	**7.73E-4**		**4.45E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0400**
Zinc	7440-66-6	15.1	U	58.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102924-HM
Matrix: Air
Lab ID: 4110439-25
Sample Volume: 2113.146 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:04

Comments: Q8529382 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.124**		**0.00721**
Barium	**7440-39-3**	**3.49**		**0.824**
Beryllium	**7440-41-7**	**0.00728**		**0.00246**
Cadmium	7440-43-9	0.00716	U	0.0571
Chromium	7440-47-3	1.55	U	1.70
Cobalt	**7440-48-4**	**0.187**		**0.0336**
Copper	**7440-50-8**	**81.8**		**2.02**
Lead	**7439-92-1**	**0.174**		**0.165**
Manganese	**7439-96-5**	**5.28**		**1.46**
Molybdenum	**7439-98-7**	**2.57**		**0.276**
Nickel	**7440-02-0**	**1.21**		**0.502**
Selenium	**7782-49-2**	**0.214**		**0.00690**
Thallium	**7440-28-0**	**4.57E-4**		**4.53E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0407**
Zinc	7440-66-6	8.81	U	59.1

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102924-HM
Matrix: Air
Lab ID: 4110439-26
Sample Volume: 1834.81 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:14

Comments: Q8529381 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.418**		**0.00831**
Barium	**7440-39-3**	**4.15**		**0.949**
Beryllium	**7440-41-7**	**0.0141**		**0.00284**
Cadmium	7440-43-9	0.00879	U	0.0657
Chromium	**7440-47-3**	**2.54**		**1.96**
Cobalt	**7440-48-4**	**0.445**		**0.0387**
Copper	**7440-50-8**	**40.4**		**2.33**
Lead	**7439-92-1**	**0.341**		**0.190**
Manganese	**7439-96-5**	**14.1**		**1.68**
Molybdenum	**7439-98-7**	**1.63**		**0.318**
Nickel	**7440-02-0**	**1.55**		**0.578**
Selenium	**7782-49-2**	**0.257**		**0.00795**
Thallium	**7440-28-0**	**8.47E-4**		**5.22E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0469**
Zinc	7440-66-6	13.2	U	68.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102924-HM
Matrix: Air
Lab ID: 4110439-27
Sample Volume: 1954.456 m³
Filter ID:
Sampled: 10/29/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:25

Comments: Q8533734 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0211	SL, U	0.0321
Arsenic	7440-38-2	0.00498	U	0.00780
Barium	7440-39-3	0.773	U	0.891
Beryllium	7440-41-7	6.13E-4	U	0.00266
Cadmium	7440-43-9	0.00133	U	0.0617
Chromium	7440-47-3	0.946	U	1.84
Cobalt	7440-48-4	0.0152	U	0.0363
Copper	7440-50-8	0.951	U	2.19
Lead	7439-92-1	0.0433	U	0.178
Manganese	7439-96-5	0.269	U	1.57
Molybdenum	7439-98-7	0.138	U	0.299
Nickel	7440-02-0	0.480	U	0.543
Selenium	7782-49-2	0.00529	U	0.00746
Thallium	7440-28-0	7.64E-5	U	4.90E-4
Vanadium	7440-62-2	0.0266	U	0.0440
Zinc	7440-66-6	12.0	U	63.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-103024-HM
Matrix: Air
Lab ID: 4110439-28
Sample Volume: 1902.987 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:35

Comments: Q8533735 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.166**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.270**		**0.00801**
Barium	**7440-39-3**	**4.78**		**0.915**
Beryllium	**7440-41-7**	**0.0117**		**0.00274**
Cadmium	7440-43-9	0.0133	U	0.0634
Chromium	**7440-47-3**	**2.51**		**1.89**
Cobalt	**7440-48-4**	**0.446**		**0.0373**
Copper	**7440-50-8**	**79.6**		**2.25**
Lead	**7439-92-1**	**0.857**		**0.183**
Manganese	**7439-96-5**	**12.1**		**1.62**
Molybdenum	**7439-98-7**	**2.74**		**0.307**
Nickel	**7440-02-0**	**1.65**		**0.557**
Selenium	**7782-49-2**	**0.219**		**0.00766**
Thallium	**7440-28-0**	**0.00128**		**5.04E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0452**
Zinc	7440-66-6	17.3	U	65.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-103024-HM
Matrix: Air
Lab ID: 4110439-29
Sample Volume: 2113.955 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:45

Comments: Q8533732 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.188**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.414**		**0.00721**
Barium	**7440-39-3**	**6.09**		**0.824**
Beryllium	**7440-41-7**	**0.0175**		**0.00246**
Cadmium	7440-43-9	0.0139	U	0.0570
Chromium	**7440-47-3**	**2.82**		**1.70**
Cobalt	**7440-48-4**	**0.628**		**0.0336**
Copper	**7440-50-8**	**45.7**		**2.02**
Lead	**7439-92-1**	**1.05**		**0.165**
Manganese	**7439-96-5**	**19.2**		**1.45**
Molybdenum	**7439-98-7**	**1.75**		**0.276**
Nickel	**7440-02-0**	**1.98**		**0.502**
Selenium	**7782-49-2**	**0.229**		**0.00690**
Thallium	**7440-28-0**	**0.00145**		**4.53E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0407**
Zinc	7440-66-6	19.3	U	59.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-103024-HM
Matrix: Air
Lab ID: 4110439-30
Sample Volume: 2106.925 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 02:06

Comments: Q8533731 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0709**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.0945**		**0.00724**
Barium	**7440-39-3**	**2.38**		**0.826**
Beryllium	**7440-41-7**	**0.00862**		**0.00247**
Cadmium	7440-43-9	0.00599	U	0.0572
Chromium	**7440-47-3**	**1.85**		**1.71**
Cobalt	**7440-48-4**	**0.235**		**0.0337**
Copper	**7440-50-8**	**66.9**		**2.03**
Lead	**7439-92-1**	**0.273**		**0.165**
Manganese	**7439-96-5**	**5.96**		**1.46**
Molybdenum	**7439-98-7**	**2.27**		**0.277**
Nickel	**7440-02-0**	**1.17**		**0.503**
Selenium	**7782-49-2**	**0.174**		**0.00692**
Thallium	**7440-28-0**	**9.65E-4**		**4.55E-4**
Vanadium	**7440-62-2**	**0.738**		**0.0409**
Zinc	7440-66-6	9.24	U	59.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-103024-HM
Matrix: Air
Lab ID: 4110439-31
Sample Volume: 1812.676 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 02:37

Comments: Q8533730 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0916**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.518**		**0.00841**
Barium	**7440-39-3**	**4.26**		**0.960**
Beryllium	**7440-41-7**	**0.0188**		**0.00287**
Cadmium	7440-43-9	0.0147	U	0.0665
Chromium	**7440-47-3**	**3.25**		**1.98**
Cobalt	**7440-48-4**	**0.643**		**0.0391**
Copper	**7440-50-8**	**46.1**		**2.36**
Lead	**7439-92-1**	**0.486**		**0.192**
Manganese	**7439-96-5**	**20.9**		**1.70**
Molybdenum	**7439-98-7**	**1.51**		**0.322**
Nickel	**7440-02-0**	**1.84**		**0.585**
Selenium	**7782-49-2**	**0.237**		**0.00804**
Thallium	**7440-28-0**	**0.00162**		**5.29E-4**
Vanadium	**7440-62-2**	**1.97**		**0.0475**
Zinc	7440-66-6	15.1	U	68.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-103024-HM **Lab ID:** 4110439-32 **Sampled:** 10/30/24 00:00
Matrix: Air **Sample Volume:** 1902.987 m³ **Received:** 11/04/24 12:46
Filter ID: **Analysis Date:** 11/07/24 02:48

Comments: Q8533721 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0346**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.0119**		**0.00801**
Barium	7440-39-3	0.875	U	0.915
Beryllium	7440-41-7	6.84E-4	U	0.00274
Cadmium	7440-43-9	0.00148	U	0.0634
Chromium	7440-47-3	0.980	U	1.89
Cobalt	7440-48-4	0.0227	U	0.0373
Copper	**7440-50-8**	**3.02**		**2.25**
Lead	7439-92-1	0.0651	U	0.183
Manganese	7439-96-5	0.461	U	1.62
Molybdenum	**7439-98-7**	**0.314**		**0.307**
Nickel	7440-02-0	0.545	U	0.557
Selenium	7782-49-2	0.00383	U	0.00766
Thallium	7440-28-0	9.51E-5	U	5.04E-4
Vanadium	7440-62-2	0.0442	U	0.0452
Zinc	7440-66-6	5.32	U	65.7

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Blank (2411013-CCB1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	1.85		ng/l							
Arsenic	-0.332		ng/l							U
Barium	-0.283		ng/l							U
Beryllium	-0.291		ng/l							U
Cadmium	0.214		ng/l							
Chromium	0.656		ng/l							
Cobalt	0.0505		ng/l							
Copper	66.3		ng/l							
Lead	29.0		ng/l							
Manganese	2.49		ng/l							
Molybdenum	13.8		ng/l							
Nickel	0.513		ng/l							
Selenium	16.2		ng/l							
Thallium	0.892		ng/l							
Vanadium	-33.7		ng/l							U
Zinc	25.5		ng/l							
Calibration Blank (2411013-CCB2)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	1.38		ng/l							
Arsenic	0.264		ng/l							
Barium	-0.350		ng/l							U
Beryllium	-0.222		ng/l							U
Cadmium	0.0619		ng/l							
Chromium	0.716		ng/l							
Cobalt	0.153		ng/l							
Copper	33.1		ng/l							
Lead	14.2		ng/l							
Manganese	1.42		ng/l							
Molybdenum	6.94		ng/l							
Nickel	0.163		ng/l							
Selenium	7.22		ng/l							
Thallium	0.608		ng/l							
Vanadium	-34.3		ng/l							U
Zinc	23.1		ng/l							
Calibration Blank (2411013-CCB3)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.893		ng/l							
Arsenic	-1.50		ng/l							U
Barium	-0.264		ng/l							U
Beryllium	-0.252		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Blank (2411013-CCB3) Contin				Prepared: 11/05/24 Analyzed: 11/06/24						
Cadmium	0.0502		ng/l							
Chromium	1.07		ng/l							
Cobalt	0.152		ng/l							
Copper	29.7		ng/l							
Lead	13.7		ng/l							
Manganese	-0.0700		ng/l							U
Molybdenum	5.13		ng/l							
Nickel	-0.150		ng/l							U
Selenium	9.28		ng/l							
Thallium	0.852		ng/l							
Vanadium	-34.9		ng/l							U
Zinc	20.4		ng/l							
Calibration Blank (2411013-CCB4)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.947		ng/l							
Arsenic	0.467		ng/l							
Barium	-0.409		ng/l							U
Beryllium	-0.0401		ng/l							U
Cadmium	0.0372		ng/l							
Chromium	0.472		ng/l							
Cobalt	0.176		ng/l							
Copper	25.7		ng/l							
Lead	12.0		ng/l							
Manganese	0.432		ng/l							
Molybdenum	5.55		ng/l							
Nickel	0.315		ng/l							
Selenium	11.1		ng/l							
Thallium	0.564		ng/l							
Vanadium	-38.7		ng/l							U
Zinc	28.0		ng/l							
Calibration Blank (2411013-CCB5)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	1.15		ng/l							
Arsenic	0.341		ng/l							
Barium	-0.514		ng/l							U
Beryllium	-0.431		ng/l							U
Cadmium	0.0757		ng/l							
Chromium	1.28		ng/l							
Cobalt	0.146		ng/l							
Copper	27.3		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Blank (2411013-CCB5) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Lead	12.8		ng/l							
Manganese	0.284		ng/l							
Molybdenum	7.47		ng/l							
Nickel	1.08		ng/l							
Selenium	15.9		ng/l							
Thallium	0.613		ng/l							
Vanadium	-37.1		ng/l							U
Zinc	26.9		ng/l							
Calibration Blank (2411013-CCB6)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	0.768		ng/l							
Arsenic	-0.804		ng/l							U
Barium	-0.00951		ng/l							U
Beryllium	-0.343		ng/l							U
Cadmium	0.0123		ng/l							
Chromium	1.76		ng/l							
Cobalt	0.127		ng/l							
Copper	25.3		ng/l							
Lead	12.5		ng/l							
Manganese	0.130		ng/l							
Molybdenum	7.94		ng/l							
Nickel	0.163		ng/l							
Selenium	8.77		ng/l							
Thallium	0.631		ng/l							
Vanadium	-38.0		ng/l							U
Zinc	22.9		ng/l							
Calibration Blank (2411013-CCB7)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	1.25		ng/l							
Arsenic	-0.106		ng/l							U
Barium	-0.246		ng/l							U
Beryllium	-0.252		ng/l							U
Cadmium	0.0522		ng/l							
Chromium	1.02		ng/l							
Cobalt	0.153		ng/l							
Copper	25.6		ng/l							
Lead	14.0		ng/l							
Manganese	0.481		ng/l							
Molybdenum	6.65		ng/l							
Nickel	0.0577		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Blank (2411013-CCB7) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Selenium	3.57		ng/l							
Thallium	0.726		ng/l							
Vanadium	-40.9		ng/l							U
Zinc	27.5		ng/l							
Calibration Check (2411013-CCV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	47500		ng/l	50000		94.9	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2411013-CCV2)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	46900		ng/l	50000		93.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	519000		ng/l	500000		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Check (2411013-CCV3)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	47500		ng/l	50000		95.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	482		ng/l	500.00		96.5	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2411013-CCV4)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	48200		ng/l	50000		96.3	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	482		ng/l	500.00		96.5	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2411013-CCV5)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Check (2411013-CCV5) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	47800		ng/l	50000		95.5	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Calibration Check (2411013-CCV6)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	47800		ng/l	50000		95.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2411013-CCV7)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Check (2411013-CCV7) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Lead	200000		ng/l	200000		100	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	47800		ng/l	50000		95.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	535000		ng/l	500000		107	90-110			
High Cal Check (2411013-HCV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	403000		ng/l	400000		101	95-105			
Beryllium	9970		ng/l	10000		99.7	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	98900		ng/l	100000		98.9	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.3	95-105			
Lead	402000		ng/l	400000		101	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	238000		ng/l	240000		99.0	95-105			
Selenium	40600		ng/l	40000		101	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2411013-ICB1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	2.43		ng/l							
Arsenic	1.94		ng/l							
Barium	-0.468		ng/l							U
Beryllium	-0.105		ng/l							U
Cadmium	0.187		ng/l							
Chromium	-0.0175		ng/l							U
Cobalt	0.0776		ng/l							
Copper	35.2		ng/l							
Lead	51.2		ng/l							
Manganese	2.09		ng/l							
Molybdenum	7.37		ng/l							
Nickel	0.288		ng/l							

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Initial Cal Blank (2411013-ICB1) Continu				Prepared: 11/05/24 Analyzed: 11/06/24						
Selenium	9.75		ng/l							
Thallium	0.539		ng/l							
Vanadium	-31.1		ng/l							U
Zinc	24.3		ng/l							
Initial Cal Check (2411013-ICV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	19600		ng/l	20000		98.1	90-110			
Arsenic	18900		ng/l	20000		94.7	90-110			
Barium	191000		ng/l	200000		95.6	90-110			
Beryllium	4960		ng/l	5000.0		99.1	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.3	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	46400		ng/l	50000		92.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2411013-IFA1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	319000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Interference Check B (2411013-IFB1)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	18200		ng/l	20000		91.1	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	171000		ng/l	200000		85.7	80-120			
Beryllium	4490		ng/l	5000.0		89.8	80-120			
Cadmium	18300		ng/l	20000		91.5	80-120			
Chromium	245000		ng/l	240000		102	80-120			
Cobalt	48600		ng/l	50000		97.2	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.4	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	507000		ng/l	500000		101	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	112000		ng/l	120000		93.3	80-120			
Selenium	18900		ng/l	20000		94.3	80-120			
Thallium	510		ng/l	500.00		102	80-120			
Vanadium	21000		ng/l	20000		105	80-120			
Zinc	446000		ng/l	500000		89.3	80-120			
Batch B4K0508 - ICP-MS Extraction										
Blank (B4K0508-BLK1)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K0508-BS1)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.741	0.0386	ng/m³ Air	1.3829		53.6	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.9	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
LCS (B4K0508-BS1) Continued					Prepared: 11/05/24 Analyzed: 11/06/24					
Beryllium	1.37	0.00320	ng/m³ Air	1.3829		99.2	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	14.6	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.53	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.43	0.359	ng/m³ Air	1.3829		104	80-120			
Nickel	3.39	0.652	ng/m³ Air	2.7658		122	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.4	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	95.6	76.8	ng/m³ Air	82.975		115	80-120			
LCS (B4K0508-BS2)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.804	0.0386	ng/m³ Air	1.3829		58.2	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.2	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.4	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.5	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.4	2.21	ng/m³ Air	13.829		104	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.5	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.39	0.359	ng/m³ Air	1.3829		101	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.82	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.7	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.2	80-120			
Zinc	94.5	76.8	ng/m³ Air	82.975		114	80-120			
Duplicate (B4K0508-DUP1)		**Source: 4110439-17**			Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.189	0.0311	ng/m³ Air		0.163			14.8	10	SL
Arsenic	0.209	0.00755	ng/m³ Air		0.220			4.92	10	
Barium	2.19	0.862	ng/m³ Air		2.20			0.625	10	
Beryllium	0.00362	0.00258	ng/m³ Air		0.00364			0.564	10	
Cadmium	0.107	0.0597	ng/m³ Air		0.0774			31.7	10	
Chromium	ND	1.78	ng/m³ Air		2.00				10	U
Cobalt	0.137	0.0351	ng/m³ Air		0.157			13.8	10	

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REPORTED: 11/13/24 11:13
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Duplicate (B4K0508-DUP1) Continued			**Source: 4110439-17**		Prepared: 11/05/24 Analyzed: 11/06/24					
Copper	36.9	2.12	ng/m³ Air		37.0			0.309	10	
Lead	0.277	0.172	ng/m³ Air		0.351			23.3	10	
Manganese	3.59	1.52	ng/m³ Air		3.64			1.29	10	
Molybdenum	1.66	0.289	ng/m³ Air		1.55			6.83	10	
Nickel	1.73	0.526	ng/m³ Air		2.13			21.1	10	
Selenium	0.135	0.00722	ng/m³ Air		0.137			1.57	10	
Thallium	ND	4.75E-4	ng/m³ Air		ND				10	U
Vanadium	0.506	0.0426	ng/m³ Air		0.506			0.0106	10	
Zinc	ND	61.9	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP2)			**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.106	0.0338	ng/m³ Air		0.110			3.24	10	SL
Arsenic	0.217	0.00821	ng/m³ Air		0.196			10.0	10	
Barium	3.77	0.937	ng/m³ Air		3.64			3.53	10	
Beryllium	0.00997	0.00280	ng/m³ Air		0.0107			6.76	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	ND	1.94	ng/m³ Air		ND				10	U
Cobalt	0.340	0.0382	ng/m³ Air		0.333			2.11	10	
Copper	69.7	2.30	ng/m³ Air		67.0			3.92	10	
Lead	0.586	0.187	ng/m³ Air		0.532			9.59	10	
Manganese	10.4	1.66	ng/m³ Air		10.2			2.38	10	
Molybdenum	2.82	0.314	ng/m³ Air		2.82			0.211	10	
Nickel	1.34	0.571	ng/m³ Air		1.30			3.26	10	
Selenium	0.162	0.00785	ng/m³ Air		0.158			2.47	10	
Thallium	9.30E-4	5.16E-4	ng/m³ Air		8.07E-4			14.2	10	
Vanadium	1.43	0.0463	ng/m³ Air		1.44			0.697	10	
Zinc	ND	67.3	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP3)			**Source: 4110439-21**		Prepared: 11/05/24 Analyzed: 11/07/24					
Antimony	0.0691	0.0306	ng/m³ Air		0.0682			1.35	10	SL
Arsenic	0.0859	0.00742	ng/m³ Air		0.0868			1.10	10	
Barium	2.36	0.847	ng/m³ Air		2.35			0.368	10	
Beryllium	0.00467	0.00253	ng/m³ Air		0.00460			1.57	10	
Cadmium	ND	0.0587	ng/m³ Air		ND				10	U
Chromium	ND	1.75	ng/m³ Air		ND				10	U
Cobalt	0.146	0.0345	ng/m³ Air		0.146			0.00451	10	
Copper	70.2	2.08	ng/m³ Air		70.3			0.127	10	
Lead	0.203	0.169	ng/m³ Air		0.206			1.36	10	
Manganese	3.41	1.50	ng/m³ Air		3.42			0.113	10	
Molybdenum	2.70	0.284	ng/m³ Air		2.70			0.0981	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Duplicate (B4K0508-DUP3) Continued		**Source: 4110439-21**		Prepared: 11/05/24	Analyzed: 11/07/24					
Nickel	1.13	0.516	ng/m³ Air		1.15			1.47	10	
Selenium	0.163	0.00709	ng/m³ Air		0.165			1.31	10	
Thallium	ND	4.66E-4	ng/m³ Air		ND				10	U
Vanadium	0.461	0.0419	ng/m³ Air		0.461			0.00670	10	
Zinc	ND	60.8	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP4)		**Source: 4110439-29**		Prepared: 11/05/24	Analyzed: 11/07/24					
Antimony	0.187	0.0297	ng/m³ Air		0.188			0.429	10	SL
Arsenic	0.413	0.00721	ng/m³ Air		0.414			0.115	10	
Barium	6.08	0.824	ng/m³ Air		6.09			0.128	10	
Beryllium	0.0172	0.00246	ng/m³ Air		0.0175			2.10	10	
Cadmium	ND	0.0570	ng/m³ Air		ND				10	U
Chromium	2.84	1.70	ng/m³ Air		2.82			0.863	10	
Cobalt	0.630	0.0336	ng/m³ Air		0.628			0.375	10	
Copper	45.8	2.02	ng/m³ Air		45.7			0.205	10	
Lead	1.06	0.165	ng/m³ Air		1.05			1.38	10	
Manganese	19.2	1.45	ng/m³ Air		19.2			0.478	10	
Molybdenum	1.74	0.276	ng/m³ Air		1.75			0.301	10	
Nickel	1.99	0.502	ng/m³ Air		1.98			0.345	10	
Selenium	0.225	0.00690	ng/m³ Air		0.229			1.77	10	
Thallium	0.00144	4.53E-4	ng/m³ Air		0.00145			0.525	10	
Vanadium	2.15	0.0407	ng/m³ Air		2.13			0.622	10	
Zinc	ND	59.1	ng/m³ Air		ND				10	U
Matrix Spike (B4K0508-MS1)		**Source: 4110439-17**		Prepared: 11/05/24	Analyzed: 11/06/24					
Antimony	0.888	0.0311	ng/m³ Air	1.1147	0.163	65.1	80-120			SL
Arsenic	2.40	0.00755	ng/m³ Air	2.2295	0.220	97.8	80-120			
Barium	23.4	0.862	ng/m³ Air	22.295	2.20	95.3	80-120			
Beryllium	1.11	0.00258	ng/m³ Air	1.1147	0.00364	99.5	80-120			
Cadmium	1.31	0.0597	ng/m³ Air	1.1147	0.0774	111	80-120			
Chromium	13.3	1.78	ng/m³ Air	11.147	2.00	101	80-120			
Cobalt	1.32	0.0351	ng/m³ Air	1.1147	0.157	105	80-120			
Copper	62.2	2.12	ng/m³ Air	22.295	37.0	113	80-120			
Lead	11.5	0.172	ng/m³ Air	11.147	0.351	100	80-120			
Manganese	11.2	1.52	ng/m³ Air	6.6884	3.64	113	80-120			
Molybdenum	2.74	0.289	ng/m³ Air	1.1147	1.55	107	80-120			
Nickel	5.25	0.526	ng/m³ Air	2.2295	2.13	140	80-120			QM-07
Selenium	2.31	0.00722	ng/m³ Air	2.2295	0.137	97.5	80-120			
Thallium	0.107	4.75E-4	ng/m³ Air	0.11147	ND	95.9	80-120			
Vanadium	2.77	0.0426	ng/m³ Air	2.2295	0.506	102	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Matrix Spike (B4K0508-MS1) Continued Source: 4110439-17 Prepared: 11/05/24 Analyzed: 11/06/24										
Zinc	88.6	61.9	ng/m³ Air	66.884	ND	132	80-120			
Matrix Spike (B4K0508-MS2) Source: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.791	0.0338	ng/m³ Air	1.2112	0.110	56.3	80-120			SL
Arsenic	2.53	0.00821	ng/m³ Air	2.4224	0.196	96.4	80-120			
Barium	26.4	0.937	ng/m³ Air	24.224	3.64	94.0	80-120			
Beryllium	1.22	0.00280	ng/m³ Air	1.2112	0.0107	99.7	80-120			
Cadmium	1.24	0.0649	ng/m³ Air	1.2112	ND	102	80-120			
Chromium	14.2	1.94	ng/m³ Air	12.112	ND	117	80-120			
Cobalt	1.56	0.0382	ng/m³ Air	1.2112	0.333	102	80-120			
Copper	93.3	2.30	ng/m³ Air	24.224	67.0	108	80-120			
Lead	12.5	0.187	ng/m³ Air	12.112	0.532	98.7	80-120			
Manganese	17.4	1.66	ng/m³ Air	7.2671	10.2	99.9	80-120			
Molybdenum	3.80	0.314	ng/m³ Air	1.2112	2.82	80.2	80-120			
Nickel	3.79	0.571	ng/m³ Air	2.4224	1.30	103	80-120			
Selenium	2.53	0.00785	ng/m³ Air	2.4224	0.158	98.1	80-120			
Thallium	0.113	5.16E-4	ng/m³ Air	0.12112	8.07E-4	92.3	80-120			
Vanadium	3.85	0.0463	ng/m³ Air	2.4224	1.44	99.4	80-120			
Zinc	93.4	67.3	ng/m³ Air	72.671	ND	128	80-120			
Matrix Spike Dup (B4K0508-MSD1) Source: 4110439-17 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.864	0.0311	ng/m³ Air	1.1147	0.163	62.9	80-120	2.80	20	SL
Arsenic	2.40	0.00755	ng/m³ Air	2.2295	0.220	97.8	80-120	0.0172	20	
Barium	23.7	0.862	ng/m³ Air	22.295	2.20	96.2	80-120	0.915	20	
Beryllium	1.13	0.00258	ng/m³ Air	1.1147	0.00364	101	80-120	1.62	20	
Cadmium	1.19	0.0597	ng/m³ Air	1.1147	0.0774	99.5	80-120	10.1	20	
Chromium	12.9	1.78	ng/m³ Air	11.147	2.00	97.9	80-120	2.69	20	
Cobalt	1.28	0.0351	ng/m³ Air	1.1147	0.157	101	80-120	3.46	20	
Copper	61.3	2.12	ng/m³ Air	22.295	37.0	109	80-120	1.39	20	
Lead	11.6	0.172	ng/m³ Air	11.147	0.351	101	80-120	0.575	20	
Manganese	9.99	1.52	ng/m³ Air	6.6884	3.64	95.0	80-120	11.4	20	
Molybdenum	2.52	0.289	ng/m³ Air	1.1147	1.55	86.6	80-120	8.58	20	
Nickel	3.44	0.526	ng/m³ Air	2.2295	2.13	58.6	80-120	41.7	20	QM-07
Selenium	2.36	0.00722	ng/m³ Air	2.2295	0.137	99.8	80-120	2.23	20	
Thallium	0.107	4.75E-4	ng/m³ Air	0.11147	ND	96.1	80-120	0.252	20	
Vanadium	2.77	0.0426	ng/m³ Air	2.2295	0.506	102	80-120	0.0300	20	
Zinc	84.1	61.9	ng/m³ Air	66.884	ND	126	80-120	5.27	20	
Matrix Spike Dup (B4K0508-MSD2) Source: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.826	0.0338	ng/m³ Air	1.2112	0.110	59.1	80-120	4.29	20	SL
Arsenic	2.53	0.00821	ng/m³ Air	2.4224	0.196	96.2	80-120	0.196	20	

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Matrix Spike Dup (B4K0508-MSD2) Conti				**Source: 4110439-05**		Prepared: 11/05/24		Analyzed: 11/06/24		
Barium	26.3	0.937	ng/m³ Air	24.224	3.64	93.7	80-120	0.287	20	
Beryllium	1.23	0.00280	ng/m³ Air	1.2112	0.0107	100	80-120	0.713	20	
Cadmium	1.24	0.0649	ng/m³ Air	1.2112	ND	102	80-120	0.276	20	
Chromium	13.7	1.94	ng/m³ Air	12.112	ND	113	80-120	3.48	20	
Cobalt	1.56	0.0382	ng/m³ Air	1.2112	0.333	101	80-120	0.336	20	
Copper	95.6	2.30	ng/m³ Air	24.224	67.0	118	80-120	2.41	20	
Lead	12.6	0.187	ng/m³ Air	12.112	0.532	99.2	80-120	0.469	20	
Manganese	17.5	1.66	ng/m³ Air	7.2671	10.2	101	80-120	0.327	20	
Molybdenum	3.99	0.314	ng/m³ Air	1.2112	2.82	95.9	80-120	4.90	20	
Nickel	3.73	0.571	ng/m³ Air	2.4224	1.30	100	80-120	1.77	20	
Selenium	2.56	0.00785	ng/m³ Air	2.4224	0.158	99.1	80-120	0.928	20	
Thallium	0.113	5.16E-4	ng/m³ Air	0.12112	8.07E-4	93.0	80-120	0.728	20	
Vanadium	3.85	0.0463	ng/m³ Air	2.4224	1.44	99.3	80-120	0.102	20	
Zinc	91.3	67.3	ng/m³ Air	72.671	ND	126	80-120	2.27	20	
Post Spike (B4K0508-PS1)				**Source: 4110439-17**		Prepared: 11/05/24		Analyzed: 11/06/24		
Antimony	0.394	0.0311	ng/m³ Air	0.22295	0.163	103	75-125			SL
Arsenic	1.27	0.00755	ng/m³ Air	1.1147	0.220	93.9	75-125			
Barium	4.35	0.862	ng/m³ Air	2.2295	2.20	96.6	75-125			
Beryllium	0.231	0.00258	ng/m³ Air	0.22295	0.00364	102	75-125			
Cadmium	0.192	0.0597	ng/m³ Air	0.11147	0.0774	103	75-125			
Chromium	3.09	1.78	ng/m³ Air	1.1147	2.00	97.8	75-125			
Cobalt	0.379	0.0351	ng/m³ Air	0.22295	0.157	99.5	75-125			
Copper	49.5	2.12	ng/m³ Air	11.147	37.0	112	75-125			
Lead	22.6	0.172	ng/m³ Air	22.295	0.351	100	75-125			
Manganese	5.86	1.52	ng/m³ Air	2.2295	3.64	99.5	75-125			
Molybdenum	2.57	0.289	ng/m³ Air	1.1147	1.55	91.0	75-125			
Nickel	4.39	0.526	ng/m³ Air	2.2295	2.13	101	75-125			
Selenium	1.23	0.00722	ng/m³ Air	1.1147	0.137	98.4	75-125			
Thallium	0.0542	4.75E-4	ng/m³ Air	5.5736E-2	ND	97.3	75-125			
Vanadium	1.62	0.0426	ng/m³ Air	1.1147	0.506	100	75-125			
Zinc	ND	61.9	ng/m³ Air	22.295	ND		75-125			U
Post Spike (B4K0508-PS2)				**Source: 4110439-05**		Prepared: 11/05/24		Analyzed: 11/06/24		
Antimony	0.346	0.0338	ng/m³ Air	0.24224	0.110	97.4	75-125			SL
Arsenic	1.30	0.00821	ng/m³ Air	1.2112	0.196	91.4	75-125			
Barium	5.82	0.937	ng/m³ Air	2.4224	3.64	90.1	75-125			
Beryllium	0.252	0.00280	ng/m³ Air	0.24224	0.0107	99.7	75-125			
Cadmium	0.133	0.0649	ng/m³ Air	0.12112	ND	110	75-125			
Chromium	3.10	1.94	ng/m³ Air	1.2112	ND	256	75-125			

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Post Spike (B4K0508-PS2) Continued		**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24						
Cobalt	0.573	0.0382	ng/m³ Air	0.24224	0.333	99.1	75-125			
Copper	80.4	2.30	ng/m³ Air	12.112	67.0	111	75-125			
Lead	24.4	0.187	ng/m³ Air	24.224	0.532	98.6	75-125			
Manganese	12.6	1.66	ng/m³ Air	2.4224	10.2	101	75-125			
Molybdenum	3.87	0.314	ng/m³ Air	1.2112	2.82	86.3	75-125			
Nickel	3.69	0.571	ng/m³ Air	2.4224	1.30	98.9	75-125			
Selenium	1.32	0.00785	ng/m³ Air	1.2112	0.158	96.2	75-125			
Thallium	0.0567	5.16E-4	ng/m³ Air	6.0559E-2	8.07E-4	92.3	75-125			
Vanadium	2.63	0.0463	ng/m³ Air	1.2112	1.44	98.2	75-125			
Zinc	ND	67.3	ng/m³ Air	24.224	ND		75-125			U
Dilution Check (B4K0508-SRL1)		**Source: 4110439-17**		Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.158	0.156	ng/m³ Air		0.163			2.99	10	SL
Arsenic	0.217	0.0378	ng/m³ Air		0.220			1.22	10	
Barium	ND	4.31	ng/m³ Air		ND				10	U
Beryllium	ND	0.0129	ng/m³ Air		ND				10	U
Cadmium	ND	0.299	ng/m³ Air		ND				10	U
Chromium	ND	8.91	ng/m³ Air		ND				10	U
Cobalt	ND	0.176	ng/m³ Air		ND				10	U
Copper	37.8	10.6	ng/m³ Air		37.0			2.04	10	
Lead	ND	0.862	ng/m³ Air		ND				10	U
Manganese	ND	7.62	ng/m³ Air		ND				10	U
Molybdenum	1.54	1.45	ng/m³ Air		1.55			0.753	10	
Nickel	ND	2.63	ng/m³ Air		ND				10	U
Selenium	0.159	0.0361	ng/m³ Air		0.137			14.8	10	
Thallium	ND	0.00237	ng/m³ Air		ND				10	U
Vanadium	0.478	0.213	ng/m³ Air		0.506			5.59	10	
Zinc	ND	310	ng/m³ Air		ND				10	U
Dilution Check (B4K0508-SRL2)		**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	ND	0.169	ng/m³ Air		ND				10	SL, U
Arsenic	0.193	0.0410	ng/m³ Air		0.196			1.85	10	
Barium	ND	4.69	ng/m³ Air		ND				10	U
Beryllium	ND	0.0140	ng/m³ Air		ND				10	U
Cadmium	ND	0.324	ng/m³ Air		ND				10	U
Chromium	ND	9.68	ng/m³ Air		ND				10	U
Cobalt	0.348	0.191	ng/m³ Air		0.333			4.27	10	
Copper	69.0	11.5	ng/m³ Air		67.0			2.94	10	
Lead	ND	0.937	ng/m³ Air		ND				10	U
Manganese	10.5	8.28	ng/m³ Air		10.2			3.60	10	

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Dilution Check (B4K0508-SRL2) ContinueSource: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Molybdenum	2.92	1.57	ng/m³ Air		2.82			3.42	10	
Nickel	ND	2.86	ng/m³ Air		ND				10	U
Selenium	0.169	0.0392	ng/m³ Air		0.158			6.77	10	
Thallium	ND	0.00258	ng/m³ Air		ND				10	U
Vanadium	1.47	0.232	ng/m³ Air		1.44			1.49	10	
Zinc	ND	336	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/06/2024 and Shanna Vasser 11/07/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/24/2024 – 10/27/2024
Report No: 42422392

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

October 31 through November 6, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from October 31 through November 6, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 31 through November 6 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

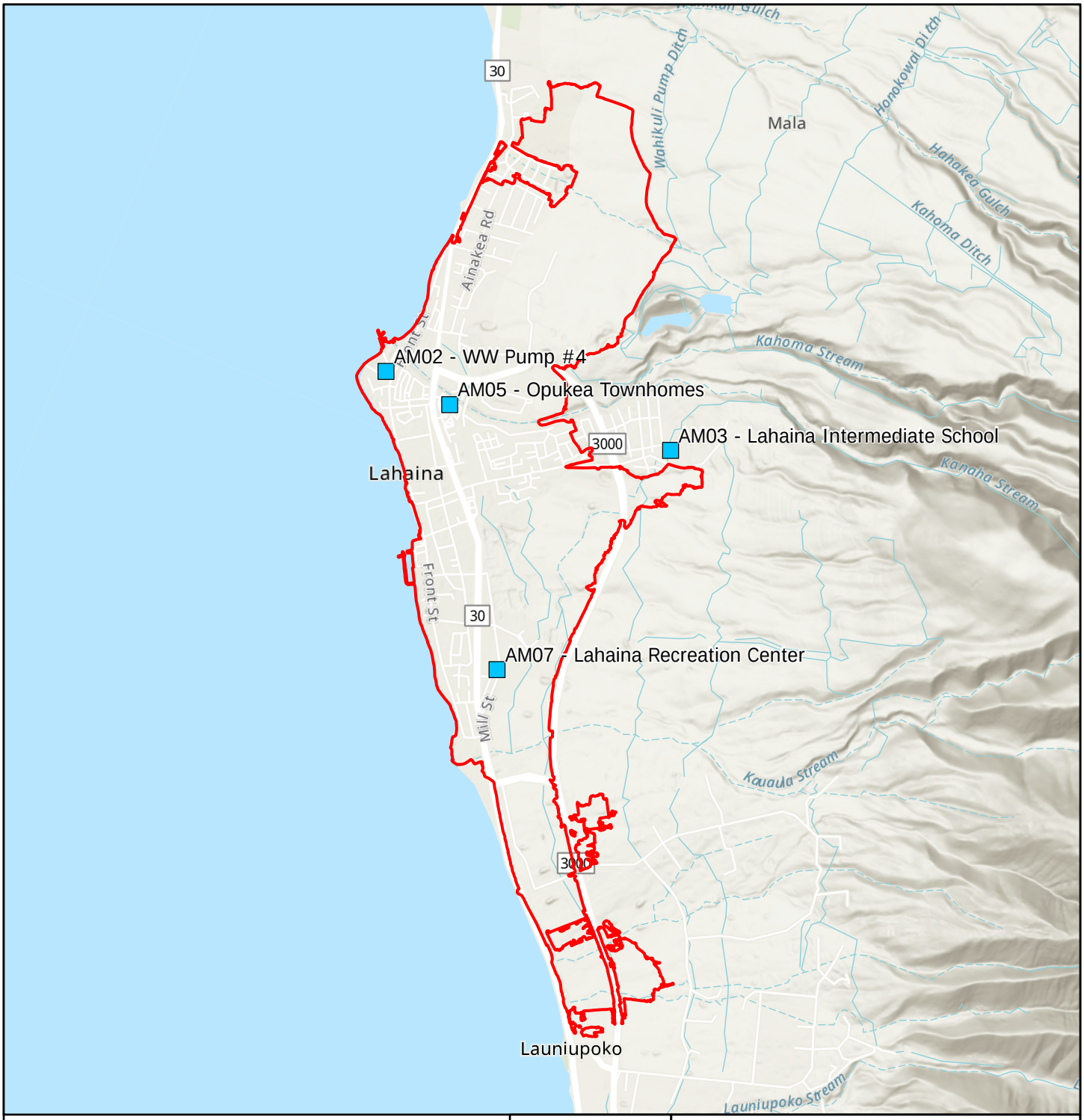
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 31 through November 6, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/31/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	4.9
	Lahaina Recreation Center (AM-07)	6.0
11/1/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	4.9
	Lahaina Recreation Center (AM-07)	5.6
11/2/2024	Opukea Townhomes (AM-05)	9.5
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	6.6
	Lahaina Recreation Center (AM-07)	4.8
11/3/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Recreation Center (AM-07)	5.4
11/4/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Recreation Center (AM-07)	5.7
11/5/2024	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	9.5
	Lahaina Recreation Center (AM-07)	100
11/6/2024	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Recreation Center (AM-07)	6.0

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 31 through November 6, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/31/2024	Opukea Townhomes (AM-05)	<0.0024	0.000238	0.000903	0.00838	0.0000244	ND	0.00467	0.00106	0.0713	0.00250	0.0264	0.00229	0.00348	0.000210	0.00000211	0.00296	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000112	0.000371	0.00662	0.0000235	ND	0.00366	0.000982	0.0388	0.00106	0.0328	0.00152	0.00255	0.000210	0.00000215	0.00270	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000624	0.000136	0.00270	0.0000170	ND	0.00228	0.000347	0.0607	0.000352	0.00888	0.00237	0.00137	0.000164	0.00000112	0.000953	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000856	0.000582	0.00497	0.0000259	ND	0.00395	0.000888	0.0325	0.000596	0.0295	0.00156	0.00221	0.000244	0.00000183	0.00238	ND
11/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.000155	0.000643	0.00727	0.0000230	ND	0.00462	0.00104	0.0613	0.00160	0.0252	0.00229	0.00317	0.000201	0.00000165	0.00285	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000312	0.00576	0.0000176	ND	0.00294	0.000662	0.0575	0.00107	0.0206	0.00194	0.00202	0.000188	0.00000137	0.00196	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000560	0.000106	0.00234	0.00000973	ND	0.00195	0.000284	0.0766	0.000265	0.00717	0.00244	0.00119	0.000138	0.000000892	0.000756	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000317	0.00325	0.0000130	ND	0.00282	0.000449	0.0335	0.000487	0.0147	0.00136	0.00141	0.000172	0.00000114	0.00133	ND
11/2/2024	Opukea Townhomes (AM-05)	<0.0024	0.000157	0.000626	0.00362	0.00000666	ND	ND	0.000261	0.0417	0.00108	0.00771	0.00128	0.00126	0.000149	0.00000193	0.000869	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000297	0.000311	0.00708	0.0000138	ND	0.00252	0.000453	0.0335	0.00106	0.0147	0.00155	0.00161	0.000213	0.00000236	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000640	0.000131	0.00221	0.00000728	ND	ND	0.000236	0.0339	0.000418	0.00607	0.00136	0.00111	0.000184	0.00000211	0.000869	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000829	0.000215	0.00252	0.00000765	ND	0.00230	0.000276	0.0293	0.000367	0.00916	0.00151	0.00137	0.000195	0.00000206	0.00103	ND
11/3/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000287	0.00312	0.00000474	ND	ND	0.000171	0.0328	0.000865	0.00562	0.00121	0.00112	0.000218	0.00000161	0.000874	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000249	0.000773	0.00585	0.0000105	ND	0.00263	0.000337	0.0337	0.00143	0.0112	0.00182	0.00179	0.000233	0.00000176	0.00148	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000533	0.0000878	0.00205	0.00000470	ND	ND	0.000132	0.0385	0.000342	0.00389	0.00155	0.00125	0.000221	0.00000145	0.000703	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000106	0.0000898	0.00193	0.00000342	ND	ND	0.000108	0.0195	0.000297	0.00363	0.00120	0.000820	0.000181	0.00000127	0.000627	ND
11/4/2024	Opukea Townhomes (AM-05)	<0.0024	0.000138	0.000413	0.00475	0.0000103	ND	0.00224	0.000410	0.0281	0.00106	0.0120	0.00137	0.00189	0.000217	0.00000116	0.00134	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000236	0.000391	0.00755	0.0000161	ND	0.00277	0.000575	0.0363	0.00113	0.0177	0.00199	0.00190	0.000238	0.00000125	0.00189	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000517	0.000125	0.00214	0.00000960	ND	ND	0.000203	0.0338	0.000240	0.00560	0.00141	0.000927	0.000172	0.000000996	0.000654	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000909	0.000282	0.00324	0.0000105	ND	0.00218	0.000364	0.0217	0.000366	0.0127	0.00131	0.00123	0.000189	0.00000115	0.00112	ND
11/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000357	0.00420	0.00000732	ND	ND	0.000251	0.0296	0.000834	0.00863	0.00162	0.00118	0.000233	0.000000853	0.00106	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000120	0.000375	0.00344	0.00000791	ND	0.00181	0.000250	0.0316	0.000607	0.00884	0.00157	0.00136	0.000216	0.000000680	0.00106	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000687	0.000168	0.00321	0.0000119	ND	0.00212	0.000386	0.0251	0.000277	0.0112	0.00122	0.00142	0.000247	0.000000802	0.00138	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000133	0.000269	0.00299	0.0000100	ND	0.00194	0.000354	0.0194	0.000258	0.0130	0.00124	0.00163	0.000240	0.00000101	0.00132	ND
11/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.000124	0.000641	0.0106	0.0000387	ND	0.00759	0.00194	0.0343	0.00123	0.0469	0.00180	0.00566	0.000355	0.00000284	0.00541	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000153	0.000553	0.00895	0.0000276	0.0000905	0.00452	0.000991	0.0451	0.00194	0.0295	0.00205	0.00306	0.000336	0.00000228	0.00333	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000576	0.000224	0.00454	0.0000458	ND	0.00452	0.000896	0.0344	0.000628	0.0222	0.00187	0.00264	0.000320	0.00000213	0.00222	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000848	0.000402	0.00408	0.0000144	ND	0.00310	0.000549	0.0219	0.000547	0.0177	0.00128	0.00177	0.000234	0.00000193	0.00162	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000480	0.00555	0.0000200	NA	0.00373	0.000710	0.0428	0.000108	0.0204	0.00177	0.00217	0.000240	0.00000180	0.00202	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 31, through November 6, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/31/2024	AM-02	WW Pump Station #4	1.0	SSE	81	65	763.2
10/31/2024	AM-03	Lahaina Intermediate School	1.2	SE	80	64	753.8
10/31/2024	AM-05	Opukea Townhomes	1.2	ESE	81	62	762.7
10/31/2024	AM-07	Lahaina Recreational Center	1.2	SSE	82	66	762.5
11/1/2024	AM-02	WW Pump Station #4	0.8	S	80	66	762.8
11/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	63	753.5
11/1/2024	AM-05	Opukea Townhomes	1.1	SE	81	62	762.4
11/1/2024	AM-07	Lahaina Recreational Center	1.1	SE	81	66	762.2
11/2/2024	AM-02	WW Pump Station #4	0.9	SSE	79	65	762.0
11/2/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	64	752.6
11/2/2024	AM-05	Opukea Townhomes	1.0	SE	80	61	761.5
11/2/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	68	761.3
11/3/2024	AM-02	WW Pump Station #4	1.0	SSE	79	68	761.6
11/3/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	66	752.3
11/3/2024	AM-05	Opukea Townhomes	1.2	SE	80	65	761.1
11/3/2024	AM-07	Lahaina Recreational Center	1.3	SE	80	69	760.9
11/4/2024	AM-02	WW Pump Station #4	0.8	S	80	72	761.5
11/4/2024	AM-03	Lahaina Intermediate School	0.9	SE	80	70	752.2
11/4/2024	AM-05	Opukea Townhomes	0.9	SE	81	68	761.1
11/4/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	73	760.8
11/5/2024	AM-02	WW Pump Station #4	0.8	S	81	77	762.5
11/5/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	74	753.2
11/5/2024	AM-05	Opukea Townhomes	1.2	SSE	81	73	762.1
11/5/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	77	761.9
11/6/2024	AM-02	WW Pump Station #4	1.5	ESE	81	63	762.2
11/6/2024	AM-03	Lahaina Intermediate School	1.7	E	80	61	752.8
11/6/2024	AM-05	Opukea Townhomes	1.9	E	81	59	761.7
11/6/2024	AM-07	Lahaina Recreational Center	1.7	SE	82	62	761.4

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-103124-AB**	**Sample Description:**	**DL267354**
EMSL Sample Number:	042422951-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7065.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0001 **Customer Sample:** MFL-AM05-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I5	None Detected									
B1	G8	None Detected									
B1	C8	None Detected									
B2	H5	None Detected									
B2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-103124-AB**	**Sample Description:**	**DL267687**
EMSL Sample Number:	042422951-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6688.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0002 **Customer Sample:** MFL-AM02-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J6	None Detected									
B5	H4	None Detected									
B5	B2	None Detected									
B6	H2	None Detected									
B6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-103124-AB**	**Sample Description:**	**DL267399**
EMSL Sample Number:	042422951-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7156.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0003 **Customer Sample:** MFL-AM03-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A4	None Detected									
C2	D8	None Detected									
C2	F10	None Detected									
C3	A7	None Detected									
C3	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-103124-AB** **Sample Description: DL267526**

EMSL Sample Number:	042422951-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0004 **Customer Sample:** MFL-AM07-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A9	None Detected									
C5	C6	None Detected									
C5	J6	None Detected									
C6	G6	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-103124-AB** **Sample Description: DL267602**

EMSL Sample Number:	042422951-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0005 **Customer Sample:** MFL-FB01-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A6	None Detected									
D2	C4	None Detected									
D2	E7	None Detected									
D2	G4	None Detected									
D2	I2	None Detected									
D3	J7	None Detected									
D3	H4	None Detected									
D3	F8	None Detected									
D3	D6	None Detected									
D3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-110124-AB** **Sample Description: DL267513**

EMSL Sample Number:	042422951-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0006 **Customer Sample:** MFL-AM05-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	H3	None Detected									
D5	C5	None Detected									
D6	A6	None Detected									
D6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110124-AB**	**Sample Description:**	**DL267635**
EMSL Sample Number:	042422951-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7331.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0007 **Customer Sample:** MFL-AM02-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C9	None Detected									
E1	F7	None Detected									
E1	H1	None Detected									
E2	B2	None Detected									
E2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110124-AB**	**Sample Description:**	**DL267617**
EMSL Sample Number:	042422951-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7119.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0008 **Customer Sample:** MFL-AM03-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A5	None Detected									
E5	E8	None Detected									
E5	H6	None Detected									
E6	I4	None Detected									
E6	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-110124-AB** **Sample Description: DL267470**

EMSL Sample Number:	042422951-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7339.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0009 **Customer Sample:** MFL-AM07-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	G6	None Detected									
F1	D8	None Detected									
F1	B5	None Detected									
F2	C6	None Detected									
F2	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110124-AB** **Sample Description: DL267406**

EMSL Sample Number:	042422951-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0010 **Customer Sample:** MFL-FB01-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J6	None Detected									
F5	H1	None Detected									
F5	F4	None Detected									
F5	D3	None Detected									
F5	A2	None Detected									
F6	A6	None Detected									
F6	A8	None Detected									
F6	E7	None Detected									
F6	G4	None Detected									
F6	J10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110224-AB**	**Sample Description:**	**DL267626**
EMSL Sample Number:	042422951-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0011 **Customer Sample:** MFL-AM05-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B3	None Detected									
G2	D4	None Detected									
G2	I7	None Detected									
G3	J5	None Detected									
G3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110224-AB**	**Sample Description:**	**DL267441**
EMSL Sample Number:	042422951-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6857.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0012 **Customer Sample:** MFL-AM02-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	D6	None Detected									
G5	F3	None Detected									
G6	D3	None Detected									
G6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110224-AB**	**Sample Description:**	**DL267532**
EMSL Sample Number:	042422951-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7167.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0013 **Customer Sample:** MFL-AM03-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	D8	None Detected									
H1	F3	None Detected									
H1	I3	None Detected									
H2	B3	None Detected									
H2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	11/06/2024 09:30 AM
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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110224-AB**	**Sample Description:**	**DL267600**
EMSL Sample Number:	042422951-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0014 **Customer Sample:** MFL-AM07-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A4	None Detected									
H5	D6	None Detected									
H5	G9	None Detected									
H6	C7	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110224-AB** **Sample Description: DL267338**

EMSL Sample Number:	042422951-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0015 **Customer Sample:** MFL-FB01-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J4	None Detected									
I2	H5	None Detected									
I2	F1	None Detected									
I2	D3	None Detected									
I2	B5	None Detected									
I3	A6	None Detected									
I3	C7	None Detected									
I3	E7	None Detected									
I3	G4	None Detected									
I3	I10	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-110324-AB** **Sample Description:** **DL267485**

EMSL Sample Number:	042422951-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0016 **Customer Sample:** MFL-AM05-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J7	None Detected									
I5	G5	None Detected									
I5	D6	None Detected									
I6	C5	None Detected									
I6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110324-AB**	**Sample Description:**	**DL267520**
EMSL Sample Number:	042422951-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7049.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0017 **Customer Sample:** MFL-AM02-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J7	None Detected									
J1	G8	None Detected									
J1	D5	None Detected									
J2	B7	None Detected									
J2	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110324-AB**		**Sample Description:**	**DL267527**
EMSL Sample Number:	042422951-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0018 **Customer Sample:** MFL-AM03-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A10	None Detected									
J5	E8	None Detected									
J5	H6	None Detected									
J6	H3	None Detected									
J6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110324-AB**	**Sample Description:**	**DL267346**
EMSL Sample Number:	042422951-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0019 **Customer Sample:** MFL-AM07-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A6	None Detected									
K1	D10	None Detected									
K1	H6	None Detected									
K2	H8	None Detected									
K2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110324-AB** **Sample Description: DL267614**

EMSL Sample Number:	042422951-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0020 **Customer Sample:** MFL-FB01-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A5	None Detected									
K5	C8	None Detected									
K5	E4	None Detected									
K5	G6	None Detected									
K5	H5	None Detected									
K6	J3	None Detected									
K6	H6	None Detected									
K6	F8	None Detected									
K6	F7	None Detected									
K6	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042422951-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042422951
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J5	None Detected									
A1	H1	None Detected									
A1	F2	None Detected									
A1	D6	None Detected									
A1	B3	None Detected									
A2	A10	None Detected									
A2	C1	None Detected									
A2	E2	None Detected									
A2	G5	None Detected									
A2	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042422951

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Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422951

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

RECEIVED EMSL CINNAMINSON, NJ 24 NOV -6 AM 9:40

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Sheina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-103124-AB	DL267354	7,065.154	10/31/24 1105
MFL-AM02-103124-AB	DL267687	6,688.911	10/31/24 1120
MFL-AM03-103124-AB	DL267399	7,156.763	10/31/24 1258
MFL-AM07-103124-AB	DL267526	7,225.568	10/31/24 1318
MFL-FB01-103124-AB	DL267602	0	10/31/24 1200
MFL-AM05-110124-AB	DL267513	7,203.744	11/01/24 1109
MFL-AM02-110124-AB	DL267635	7,331.638	11/01/24 1145
MFL-AM03-110124-AB	DL267617	7,119.618	11/01/24 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20 SP

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 11/04/24 1100 Received by: FedEx Date/Time: 11/6/24 9:30A

Relinquished by: Date/Time: Received by: Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042422951

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422951

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-110124-AB	DL267470	7,339.842	11/01/24 1340
MFL-FB01-110124-AB	DL267406	0	11/01/24 1200
MFL-AM05-110224-AB	DL267626	7,116.472	11/02/24 1059
MFL-AM02-110224-AB	DL267441	6,857.557	11/02/24 1117
MFL-AM03-110224-AB	DL267532	7,167.659	11/02/24 1255
MFL-AM07-110224-AB	DL267600	7,116.270	11/02/24 1318
MFL-FB01-110224-AB	DL267338	0	11/02/24 1200
MFL-AM05-110324-AB	DL267485	7,151.960	11/03/24 1059
MFL-AM02-110324-AB	DL267520	7,049.759	11/03/24 1113
MFL-AM03-110324-AB	DL267527	7,138.882	11/03/24 1252
MFL-AM07-110324-AB	DL267346	7,227.862	11/03/24 1315
MFL-FB01-110324-AB	DL267614	0	11/03/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 NOV -6 AM 9:40

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Shanna Epstein — Date/Time: 11/04/24 1100
Received by: FedEx — Date/Time: 11/6/24 9:30A

Relinquished by: — Date/Time:
Received by: — Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/12/2024 and Shanna Vasser 11/15/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/31/2024 – 11/03/2024
Report No: 42422951

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-110424-AB** **Sample Description: DL267492**

EMSL Sample Number:	042423253-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0001 **Customer Sample:** MFL-AM05-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B4	None Detected									
A5	D3	None Detected									
A6	J8	None Detected									
A6	H7	None Detected									
A7	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-110424-AB** **Sample Description: DL267411**

EMSL Sample Number:	042423253-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6918.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0002 **Customer Sample:** MFL-AM02-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C9	None Detected									
B1	A7	None Detected									
B3	D6	None Detected									
B3	E5	None Detected									
B4	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110424-AB**		**Sample Description:**	**DL267378**
EMSL Sample Number:	042423253-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0003 **Customer Sample:** MFL-AM03-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	C2	None Detected									
B5	E1	None Detected									
B6	J8	None Detected									
B6	I7	None Detected									
B7	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-110424-AB** **Sample Description: DL267484**

EMSL Sample Number:	042423253-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7253.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0004 **Customer Sample:** MFL-AM07-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A7	None Detected									
C1	B8	None Detected									
C2	D5	None Detected									
C2	F6	None Detected									
C3	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110424-AB** **Sample Description:** **DL267368**

EMSL Sample Number:	042423253-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**042423253**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0005 **Customer Sample:** MFL-FB01-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I8	None Detected									
C5	H7	None Detected									
C6	J5	None Detected									
C6	G4	None Detected									
C7	A6	None Detected									
C8	J8	None Detected									
C8	J6	None Detected									
C8	H7	None Detected									
C8	H5	None Detected									
C8	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-110524-AB** **Sample Description: DL267410**

EMSL Sample Number:	042423253-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7226.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0006 **Customer Sample:** MFL-AM05-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B8	None Detected									
D1	C9	None Detected									
D2	J5	None Detected									
D2	I4	None Detected									
D3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110524-AB**		**Sample Description:**	**DL267628**
EMSL Sample Number:	042423253-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0007 **Customer Sample:** MFL-AM02-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	I5	None Detected									
D6	H9	None Detected									
D6	G10	None Detected									
D7	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423253
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Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-110524-AB** **Sample Description: DL267337**

EMSL Sample Number:	042423253-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0008 **Customer Sample:** MFL-AM03-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I7	None Detected									
E1	H6	None Detected									
E2	A3	None Detected									
E2	B4	None Detected									
E3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Project: **Maui Fires Lahaina**

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110524-AB**		**Sample Description:**	**DL267344**
EMSL Sample Number:	042423253-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0009 **Customer Sample:** MFL-AM07-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B6	None Detected									
E5	C7	None Detected									
E6	A5	None Detected									
E6	D4	None Detected									
E7	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110524-AB** **Sample Description: DL267465**

EMSL Sample Number:	042423253-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Approved Signatory

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EMSL Order ID:	**042423253**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0010 **Customer Sample:** MFL-FB01-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I8	None Detected									
F1	I6	None Detected									
F1	H7	None Detected									
F1	H5	None Detected									
F2	C7	None Detected									
F2	C9	None Detected									
F2	D10	None Detected									
F3	A4	None Detected									
F3	A6	None Detected									
F3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110624-AB**		**Sample Description:**	**DL267661**
EMSL Sample Number:	042423253-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7088.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0011 **Customer Sample:** MFL-AM05-110624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J8	None Detected									
F5	I7	None Detected									
F6	H3	None Detected									
F6	G4	None Detected									
F7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110624-AB**		**Sample Description:**	**DL267598**
EMSL Sample Number:	042423253-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7035.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0012 **Customer Sample:** MFL-AM02-110624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A7	None Detected									
G1	B8	None Detected									
G2	C5	None Detected									
G2	D6	None Detected									
G3	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110624-AB**		**Sample Description:**	**DL267673**
EMSL Sample Number:	042423253-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0013 **Customer Sample:** MFL-AM03-110624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B9	None Detected									
G5	C10	None Detected									
G6	J5	None Detected									
G6	I6	None Detected									
G7	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110624-AB**	**Sample Description:**	**DL267621**
EMSL Sample Number:	042423253-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7186.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0014 **Customer Sample:** MFL-AM07-110624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H4	E9	None Detected									
H4	D10	None Detected									
H4	D8	None Detected									
H4	A10	None Detected									
H4	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110624-AB**		**Sample Description:**	**DL264134**
EMSL Sample Number:	042423253-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423253
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0015 **Customer Sample:** MFL-FB01-110624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A6	None Detected									
H5	A8	None Detected									
H5	C7	None Detected									
H5	C9	None Detected									
H6	J5	None Detected									
H6	J3	None Detected									
H6	I6	None Detected									
H7	D4	None Detected									
H7	D6	None Detected									
H7	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042423253-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042423253**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423253-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	G4	None Detected									
A1	G6	None Detected									
A1	H7	None Detected									
A1	H9	None Detected									
A2	J5	None Detected									
A2	J3	None Detected									
A2	I4	None Detected									
A3	H8	None Detected									
A3	H6	None Detected									
A3	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042423253

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042423253

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 989-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED EMSL CINNAMINSON NJ NOV 06 - AM 10:15

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-110424-AB	DL267492	7,187.627	11/04/24 1053
MFL-AM02-110424-AB	DL267411	6,917.999	11/04/24 1110
MFL-AM03-110424-AB	DL267378	7,175.548	11/04/24 1253
MFL-AM07-110424-AB	DL267484	7,253.667	11/04/24 1313
MFL-FB01-110424-AB	DL267368	0	11/04/24 1200
MFL-AM05-110524-AB	DL267410	7,226.928	11/05/24 1055
MFL-AM02-110524-AB	DL267628	7,183.707	11/05/24 1111
MFL-AM03-110524-AB	DL267337	7,186.606	11/05/24 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:		Received by: Angie ONeill FX	Date/Time 11/7/24 930
Relinquished by:	Date/Time: 11/07/24 1100	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/25/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042423253

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423253

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-110524-AB	DL267344	7,128.017	11/05/24 1313
MFL-FB01-110529-AB	DL267465	0	11/05/24 1200
MFL-AM05-110624-AB	DL267661	7,088.493	11/06/24 1055
MFL-AM02-110624-AB	DL267598	7,035.921	11/06/24 1113
MFL-AM03-110624-AB	DL267673	7,143.758	11/06/24 1252
MFL-AM07-110624-AB	DL267621	7,186.693	11/06/24 1314
MFL-FB01-110624-AB	DL264134	0	11/06/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 NOV 11 A 10: 29

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/07/24 1100	Received by: FedEx	Date/Time 11/11/24 9:20A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/19/2024 and Shanna Vasser 11/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/04/2024 – 11/06/2024
Report No: 42423253

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

November 19, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 11/11/24 11:49.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-103124-HM	4111215-01	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM02-103124-HM	4111215-02	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM03-103124-HM	4111215-03	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM07-103124-HM	4111215-04	Air	10/31/24 23:59	11/11/24 11:49
MFL-FB01-103124-HM	4111215-05	Air	10/31/24 00:00	11/11/24 11:49
MFL-AM05-110124-HM	4111215-06	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM02-110124-HM	4111215-07	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM03-110124-HM	4111215-08	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM07-110124-HM	4111215-09	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM05-110224-HM	4111215-10	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM02-110224-HM	4111215-11	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM03-110224-HM	4111215-12	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM07-110224-HM	4111215-13	Air	11/02/24 23:59	11/11/24 11:49
MFL-FB01-110224-HM	4111215-14	Air	11/02/24 00:00	11/11/24 11:49
MFL-AM05-110324-HM	4111215-15	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM02-110324-HM	4111215-16	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM03-110324-HM	4111215-17	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM07-110324-HM	4111215-18	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM05-110424-HM	4111215-19	Air	11/04/24 23:59	11/11/24 11:49
MFL-AM02-110424-HM	4111215-20	Air	11/04/24 23:59	11/11/24 11:49
MFL-AM03-110424-HM	4111215-21	Air	11/04/24 23:59	11/11/24 11:49

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-110424-HM	4111215-22	Air	11/04/24 23:59	11/11/24 11:49
MFL-FB01-110424-HM	4111215-23	Air	11/04/24 00:00	11/11/24 11:49
MFL-AM05-110524-HM	4111215-24	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM02-110524-HM	4111215-25	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM03-110524-HM	4111215-26	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM07-110524-HM	4111215-27	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM05-110624-HM	4111215-28	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM02-110624-HM	4111215-29	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM03-110624-HM	4111215-30	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM07-110624-HM	4111215-31	Air	11/06/24 23:59	11/11/24 11:49
MFL-FB01-110624-HM	4111215-32	Air	11/06/24 00:00	11/11/24 11:49

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-103124-HM
Matrix: Air
Lab ID: 4111215-01
Sample Volume: 1911.749 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:10

Comments: Q8533727 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.238**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.903**		**0.00797**
Barium	**7440-39-3**	**8.38**		**0.911**
Beryllium	**7440-41-7**	**0.0244**		**0.00272**
Cadmium	7440-43-9	0.0287	U	0.0631
Chromium	**7440-47-3**	**4.67**		**1.88**
Cobalt	**7440-48-4**	**1.06**		**0.0371**
Copper	**7440-50-8**	**71.3**		**2.24**
Lead	**7439-92-1**	**2.50**		**0.182**
Manganese	**7439-96-5**	**26.4**		**1.61**
Molybdenum	**7439-98-7**	**2.29**		**0.306**
Nickel	**7440-02-0**	**3.48**		**0.555**
Selenium	**7782-49-2**	**0.210**		**0.00763**
Thallium	**7440-28-0**	**0.00211**		**5.01E-4**
Vanadium	**7440-62-2**	**2.96**		**0.0450**
Zinc	7440-66-6	36.9	U	65.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-103124-HM
Matrix: Air
Lab ID: 4111215-02
Sample Volume: 2073.495 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:30

Comments: Q8533725 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.371**		**0.00735**
Barium	**7440-39-3**	**6.62**		**0.840**
Beryllium	**7440-41-7**	**0.0235**		**0.00251**
Cadmium	7440-43-9	0.0207	U	0.0581
Chromium	**7440-47-3**	**3.66**		**1.73**
Cobalt	**7440-48-4**	**0.982**		**0.0342**
Copper	**7440-50-8**	**38.8**		**2.06**
Lead	**7439-92-1**	**1.06**		**0.168**
Manganese	**7439-96-5**	**32.8**		**1.48**
Molybdenum	**7439-98-7**	**1.52**		**0.282**
Nickel	**7440-02-0**	**2.55**		**0.512**
Selenium	**7782-49-2**	**0.210**		**0.00703**
Thallium	**7440-28-0**	**0.00215**		**4.62E-4**
Vanadium	**7440-62-2**	**2.70**		**0.0415**
Zinc	7440-66-6	17.0	U	60.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-103124-HM
Matrix: Air
Lab ID: 4111215-03
Sample Volume: 2015.175 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:45

Comments: Q8533718 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0624**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.136**		**0.00757**
Barium	**7440-39-3**	**2.70**		**0.864**
Beryllium	**7440-41-7**	**0.0170**		**0.00258**
Cadmium	7440-43-9	0.00977	U	0.0598
Chromium	**7440-47-3**	**2.28**		**1.78**
Cobalt	**7440-48-4**	**0.347**		**0.0352**
Copper	**7440-50-8**	**60.7**		**2.12**
Lead	**7439-92-1**	**0.352**		**0.173**
Manganese	**7439-96-5**	**8.88**		**1.53**
Molybdenum	**7439-98-7**	**2.37**		**0.290**
Nickel	**7440-02-0**	**1.37**		**0.526**
Selenium	**7782-49-2**	**0.164**		**0.00723**
Thallium	**7440-28-0**	**0.00112**		**4.76E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0427**
Zinc	7440-66-6	8.79	U	62.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-103124-HM
Matrix: Air
Lab ID: 4111215-04
Sample Volume: 1849.821 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:01

Comments: Q8533716 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0856**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.582**		**0.00824**
Barium	**7440-39-3**	**4.97**		**0.941**
Beryllium	**7440-41-7**	**0.0259**		**0.00281**
Cadmium	7440-43-9	0.0146	U	0.0652
Chromium	**7440-47-3**	**3.95**		**1.94**
Cobalt	**7440-48-4**	**0.888**		**0.0383**
Copper	**7440-50-8**	**32.5**		**2.31**
Lead	**7439-92-1**	**0.596**		**0.188**
Manganese	**7439-96-5**	**29.5**		**1.66**
Molybdenum	**7439-98-7**	**1.56**		**0.316**
Nickel	**7440-02-0**	**2.21**		**0.573**
Selenium	**7782-49-2**	**0.244**		**0.00788**
Thallium	**7440-28-0**	**0.00183**		**5.18E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0465**
Zinc	7440-66-6	12.8	U	67.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-103124-HM
Matrix: Air
Lab ID: 4111215-05
Sample Volume: 1911.749 m³
Filter ID:
Sampled: 10/31/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:17

Comments: Q8533710 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0337**	FB-01, SL	**0.0329**
Arsenic	7440-38-2	0.00533	U	0.00797
Barium	7440-39-3	0.768	U	0.911
Beryllium	7440-41-7	1.04E-4	U	0.00272
Cadmium	7440-43-9	0.00117	U	0.0631
Chromium	7440-47-3	0.767	U	1.88
Cobalt	7440-48-4	0.0130	U	0.0371
Copper	7440-50-8	0.453	U	2.24
Lead	7439-92-1	0.0433	U	0.182
Manganese	7439-96-5	0.258	U	1.61
Molybdenum	7439-98-7	0.136	U	0.306
Nickel	7440-02-0	0.399	U	0.555
Selenium	7782-49-2	0.00290	U	0.00763
Thallium	7440-28-0	1.38E-4	U	5.01E-4
Vanadium	7440-62-2	0.0147	U	0.0450
Zinc	7440-66-6	6.63	U	65.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110124-HM
Matrix: Air
Lab ID: 4111215-06
Sample Volume: 1879.887 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/13/24 17:17

Comments: Q8533714 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.643**		**0.00811**
Barium	**7440-39-3**	**7.27**		**0.926**
Beryllium	**7440-41-7**	**0.0230**		**0.00277**
Cadmium	7440-43-9	0.0188	U	0.0641
Chromium	**7440-47-3**	**4.62**		**1.91**
Cobalt	**7440-48-4**	**1.04**		**0.0377**
Copper	**7440-50-8**	**61.3**		**2.28**
Lead	**7439-92-1**	**1.60**		**0.185**
Manganese	**7439-96-5**	**25.2**		**1.64**
Molybdenum	**7439-98-7**	**2.29**		**0.311**
Nickel	**7440-02-0**	**3.17**		**0.564**
Selenium	**7782-49-2**	**0.201**		**0.00775**
Thallium	**7440-28-0**	**0.00165**	QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0458**
Zinc	7440-66-6	24.6	U	66.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110124-HM
Matrix: Air
Lab ID: 4111215-07
Sample Volume: 2105.582 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:31

Comments: Q8533713 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.312**		**0.00724**
Barium	**7440-39-3**	**5.76**		**0.827**
Beryllium	**7440-41-7**	**0.0176**		**0.00247**
Cadmium	7440-43-9	0.0209	U	0.0573
Chromium	**7440-47-3**	**2.94**		**1.71**
Cobalt	**7440-48-4**	**0.662**		**0.0337**
Copper	**7440-50-8**	**57.5**		**2.03**
Lead	**7439-92-1**	**1.07**		**0.165**
Manganese	**7439-96-5**	**20.6**		**1.46**
Molybdenum	**7439-98-7**	**1.94**		**0.277**
Nickel	**7440-02-0**	**2.02**		**0.504**
Selenium	**7782-49-2**	**0.188**		**0.00692**
Thallium	**7440-28-0**	**0.00137**		**4.55E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0409**
Zinc	7440-66-6	19.3	U	59.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110124-HM
Matrix: Air
Lab ID: 4111215-08
Sample Volume: 2024.493 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:46

Comments: Q8533709 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0560**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.106**		**0.00753**
Barium	**7440-39-3**	**2.34**		**0.860**
Beryllium	**7440-41-7**	**0.00973**		**0.00257**
Cadmium	7440-43-9	0.00824	U	0.0596
Chromium	**7440-47-3**	**1.95**		**1.78**
Cobalt	**7440-48-4**	**0.284**		**0.0350**
Copper	**7440-50-8**	**76.6**		**2.11**
Lead	**7439-92-1**	**0.265**		**0.172**
Manganese	**7439-96-5**	**7.17**		**1.52**
Molybdenum	**7439-98-7**	**2.44**		**0.289**
Nickel	**7440-02-0**	**1.19**		**0.524**
Selenium	**7782-49-2**	**0.138**		**0.00720**
Thallium	**7440-28-0**	**8.92E-4**		**4.73E-4**
Vanadium	**7440-62-2**	**0.756**		**0.0425**
Zinc	7440-66-6	8.51	U	61.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110124-HM
Matrix: Air
Lab ID: 4111215-09
Sample Volume: 2027.851 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:00

Comments: Q8533708 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.317**		**0.00752**
Barium	**7440-39-3**	**3.25**		**0.858**
Beryllium	**7440-41-7**	**0.0130**		**0.00257**
Cadmium	7440-43-9	0.0132	U	0.0595
Chromium	**7440-47-3**	**2.82**		**1.77**
Cobalt	**7440-48-4**	**0.449**		**0.0350**
Copper	**7440-50-8**	**33.5**		**2.11**
Lead	**7439-92-1**	**0.487**		**0.172**
Manganese	**7439-96-5**	**14.7**		**1.52**
Molybdenum	**7439-98-7**	**1.36**		**0.288**
Nickel	**7440-02-0**	**1.41**		**0.523**
Selenium	**7782-49-2**	**0.172**		**0.00719**
Thallium	**7440-28-0**	**0.00114**		**4.73E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0424**
Zinc	7440-66-6	10.7	U	61.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110224-HM
Matrix: Air
Lab ID: 4111215-10
Sample Volume: 1866.151 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:14

Comments: Q8533707 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.626**		**0.00817**
Barium	**7440-39-3**	**3.62**		**0.933**
Beryllium	**7440-41-7**	**0.00666**		**0.00279**
Cadmium	7440-43-9	0.0168	U	0.0646
Chromium	7440-47-3	1.89	U	1.93
Cobalt	**7440-48-4**	**0.261**		**0.0380**
Copper	**7440-50-8**	**41.7**		**2.29**
Lead	**7439-92-1**	**1.08**		**0.187**
Manganese	**7439-96-5**	**7.71**		**1.65**
Molybdenum	**7439-98-7**	**1.28**		**0.313**
Nickel	**7440-02-0**	**1.26**		**0.568**
Selenium	**7782-49-2**	**0.149**		**0.00781**
Thallium	**7440-28-0**	**0.00193**		**5.14E-4**
Vanadium	**7440-62-2**	**0.869**		**0.0461**
Zinc	7440-66-6	20.3	U	67.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110224-HM
Matrix: Air
Lab ID: 4111215-11
Sample Volume: 2034.048 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:28

Comments: Q8533706 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.297**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.311**		**0.00749**
Barium	**7440-39-3**	**7.08**		**0.856**
Beryllium	**7440-41-7**	**0.0138**		**0.00256**
Cadmium	7440-43-9	0.0167	U	0.0593
Chromium	**7440-47-3**	**2.52**		**1.77**
Cobalt	**7440-48-4**	**0.453**		**0.0349**
Copper	**7440-50-8**	**33.5**		**2.10**
Lead	**7439-92-1**	**1.06**		**0.171**
Manganese	**7439-96-5**	**14.7**		**1.51**
Molybdenum	**7439-98-7**	**1.55**		**0.287**
Nickel	**7440-02-0**	**1.61**		**0.522**
Selenium	**7782-49-2**	**0.213**		**0.00717**
Thallium	**7440-28-0**	**0.00236**		**4.71E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0423**
Zinc	7440-66-6	24.8	U	61.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110224-HM
Matrix: Air
Lab ID: 4111215-12
Sample Volume: 1909.25 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 03:40

Comments: Q8533705 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0640**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.131**		**0.00798**
Barium	**7440-39-3**	**2.21**		**0.912**
Beryllium	**7440-41-7**	**0.00728**		**0.00273**
Cadmium	7440-43-9	0.0130	U	0.0631
Chromium	7440-47-3	1.72	U	1.88
Cobalt	**7440-48-4**	**0.236**		**0.0372**
Copper	**7440-50-8**	**33.9**		**2.24**
Lead	**7439-92-1**	**0.418**		**0.182**
Manganese	**7439-96-5**	**6.07**		**1.61**
Molybdenum	**7439-98-7**	**1.36**		**0.306**
Nickel	**7440-02-0**	**1.11**		**0.556**
Selenium	**7782-49-2**	**0.184**		**0.00764**
Thallium	**7440-28-0**	**0.00211**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**0.869**		**0.0451**
Zinc	7440-66-6	9.24	U	65.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110224-HM
Matrix: Air
Lab ID: 4111215-13
Sample Volume: 1876.488 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:07

Comments: Q8533704 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0829**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.215**		**0.00812**
Barium	**7440-39-3**	**2.52**		**0.928**
Beryllium	**7440-41-7**	**0.00765**		**0.00277**
Cadmium	7440-43-9	0.0103	U	0.0642
Chromium	**7440-47-3**	**2.30**		**1.92**
Cobalt	**7440-48-4**	**0.276**		**0.0378**
Copper	**7440-50-8**	**29.3**		**2.28**
Lead	**7439-92-1**	**0.367**		**0.186**
Manganese	**7439-96-5**	**9.16**		**1.64**
Molybdenum	**7439-98-7**	**1.51**		**0.311**
Nickel	**7440-02-0**	**1.37**		**0.565**
Selenium	**7782-49-2**	**0.195**		**0.00777**
Thallium	**7440-28-0**	**0.00206**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0459**
Zinc	7440-66-6	8.58	U	66.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110224-HM **Lab ID:** 4111215-14 **Sampled:** 11/02/24 00:00
Matrix: Air **Sample Volume:** 1866.151 m³ **Received:** 11/11/24 11:49
Filter ID: **Analysis Date:** 11/14/24 04:21

Comments: Q8533699 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0204	SL, U	0.0337
Arsenic	7440-38-2	0.00366	U	0.00817
Barium	7440-39-3	0.901	U	0.933
Beryllium	7440-41-7	ND	U	0.00279
Cadmium	7440-43-9	6.58E-4	U	0.0646
Chromium	7440-47-3	0.825	U	1.93
Cobalt	7440-48-4	0.00992	U	0.0380
Copper	7440-50-8	1.21	U	2.29
Lead	7439-92-1	0.0501	U	0.187
Manganese	7439-96-5	0.171	U	1.65
Molybdenum	7439-98-7	0.132	U	0.313
Nickel	7440-02-0	0.421	U	0.568
Selenium	7782-49-2	0.00326	U	0.00781
Thallium	7440-28-0	1.29E-4	QB-04, U	5.14E-4
Vanadium	7440-62-2	0.0126	U	0.0461
Zinc	7440-66-6	3.70	U	67.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110324-HM
Matrix: Air
Lab ID: 4111215-15
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:35

Comments: Q8533701 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.287**		**0.00798**
Barium	**7440-39-3**	**3.12**		**0.911**
Beryllium	**7440-41-7**	**0.00474**		**0.00273**
Cadmium	7440-43-9	0.0306	U	0.0631
Chromium	7440-47-3	1.42	U	1.88
Cobalt	**7440-48-4**	**0.171**		**0.0371**
Copper	**7440-50-8**	**32.8**		**2.24**
Lead	**7439-92-1**	**0.865**		**0.182**
Manganese	**7439-96-5**	**5.62**		**1.61**
Molybdenum	**7439-98-7**	**1.21**		**0.306**
Nickel	**7440-02-0**	**1.12**		**0.555**
Selenium	**7782-49-2**	**0.218**		**0.00763**
Thallium	**7440-28-0**	**0.00161**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**0.874**		**0.0451**
Zinc	7440-66-6	13.9	U	65.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110324-HM
Matrix: Air
Lab ID: 4111215-16
Sample Volume: 2079.365 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:49

Comments: Q8533700 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.249**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.773**		**0.00733**
Barium	**7440-39-3**	**5.85**		**0.837**
Beryllium	**7440-41-7**	**0.0105**		**0.00250**
Cadmium	7440-43-9	0.0289	U	0.0580
Chromium	**7440-47-3**	**2.63**		**1.73**
Cobalt	**7440-48-4**	**0.337**		**0.0341**
Copper	**7440-50-8**	**33.7**		**2.06**
Lead	**7439-92-1**	**1.43**		**0.167**
Manganese	**7439-96-5**	**11.2**		**1.48**
Molybdenum	**7439-98-7**	**1.82**		**0.281**
Nickel	**7440-02-0**	**1.79**		**0.510**
Selenium	**7782-49-2**	**0.233**		**0.00701**
Thallium	**7440-28-0**	**0.00176**	QB-04	**4.61E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0414**
Zinc	7440-66-6	26.9	U	60.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110324-HM
Matrix: Air
Lab ID: 4111215-17
Sample Volume: 1920.906 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:04

Comments: Q8533698 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0533**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.0878**		**0.00794**
Barium	**7440-39-3**	**2.05**		**0.906**
Beryllium	**7440-41-7**	**0.00470**		**0.00271**
Cadmium	7440-43-9	0.0350	U	0.0628
Chromium	7440-47-3	1.51	U	1.87
Cobalt	**7440-48-4**	**0.132**		**0.0369**
Copper	**7440-50-8**	**38.5**		**2.23**
Lead	**7439-92-1**	**0.342**		**0.181**
Manganese	**7439-96-5**	**3.89**		**1.60**
Molybdenum	**7439-98-7**	**1.55**		**0.304**
Nickel	**7440-02-0**	**1.25**		**0.552**
Selenium	**7782-49-2**	**0.221**		**0.00759**
Thallium	**7440-28-0**	**0.00145**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**0.703**		**0.0448**
Zinc	7440-66-6	9.45	U	65.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110324-HM
Matrix: Air
Lab ID: 4111215-18
Sample Volume: 1881.796 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:18

Comments: Q8533696 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.0898**		**0.00810**
Barium	**7440-39-3**	**1.93**		**0.925**
Beryllium	**7440-41-7**	**0.00342**		**0.00277**
Cadmium	7440-43-9	0.00797	U	0.0641
Chromium	7440-47-3	1.30	U	1.91
Cobalt	**7440-48-4**	**0.108**		**0.0377**
Copper	**7440-50-8**	**19.5**		**2.27**
Lead	**7439-92-1**	**0.297**		**0.185**
Manganese	**7439-96-5**	**3.63**		**1.63**
Molybdenum	**7439-98-7**	**1.20**		**0.310**
Nickel	**7440-02-0**	**0.820**		**0.564**
Selenium	**7782-49-2**	**0.181**		**0.00775**
Thallium	**7440-28-0**	**0.00127**	QB-04	**5.09E-4**
Vanadium	**7440-62-2**	**0.627**		**0.0457**
Zinc	7440-66-6	9.06	U	66.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110424-HM
Matrix: Air
Lab ID: 4111215-19
Sample Volume: 1898.891 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:31

Comments: Q8533695 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.138**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.413**		**0.00803**
Barium	**7440-39-3**	**4.75**		**0.917**
Beryllium	**7440-41-7**	**0.0103**		**0.00274**
Cadmium	7440-43-9	0.0506	U	0.0635
Chromium	**7440-47-3**	**2.24**		**1.89**
Cobalt	**7440-48-4**	**0.410**		**0.0374**
Copper	**7440-50-8**	**28.1**		**2.25**
Lead	**7439-92-1**	**1.06**		**0.183**
Manganese	**7439-96-5**	**12.0**		**1.62**
Molybdenum	**7439-98-7**	**1.37**		**0.308**
Nickel	**7440-02-0**	**1.89**		**0.559**
Selenium	**7782-49-2**	**0.217**		**0.00768**
Thallium	**7440-28-0**	**0.00116**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0453**
Zinc	7440-66-6	18.2	U	65.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110424-HM
Matrix: Air
Lab ID: 4111215-20
Sample Volume: 2041.322 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:45

Comments: Q8533694 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.236**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.391**		**0.00747**
Barium	**7440-39-3**	**7.55**		**0.853**
Beryllium	**7440-41-7**	**0.0161**		**0.00255**
Cadmium	7440-43-9	0.0199	U	0.0591
Chromium	**7440-47-3**	**2.77**		**1.76**
Cobalt	**7440-48-4**	**0.575**		**0.0348**
Copper	**7440-50-8**	**36.3**		**2.10**
Lead	**7439-92-1**	**1.13**		**0.171**
Manganese	**7439-96-5**	**17.7**		**1.51**
Molybdenum	**7439-98-7**	**1.99**		**0.286**
Nickel	**7440-02-0**	**1.90**		**0.520**
Selenium	**7782-49-2**	**0.238**		**0.00714**
Thallium	**7440-28-0**	**0.00125**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0422**
Zinc	7440-66-6	27.0	U	61.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110424-HM
Matrix: Air
Lab ID: 4111215-21
Sample Volume: 1946.684 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:18

Comments: Q8533693 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0517**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.125**		**0.00783**
Barium	**7440-39-3**	**2.14**		**0.894**
Beryllium	**7440-41-7**	**0.00960**		**0.00267**
Cadmium	7440-43-9	0.0219	U	0.0619
Chromium	7440-47-3	1.55	U	1.85
Cobalt	**7440-48-4**	**0.203**		**0.0364**
Copper	**7440-50-8**	**33.8**		**2.20**
Lead	**7439-92-1**	**0.240**		**0.179**
Manganese	**7439-96-5**	**5.60**		**1.58**
Molybdenum	**7439-98-7**	**1.41**		**0.300**
Nickel	**7440-02-0**	**0.927**		**0.545**
Selenium	**7782-49-2**	**0.172**		**0.00749**
Thallium	**7440-28-0**	**9.96E-4**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**0.654**		**0.0442**
Zinc	7440-66-6	7.59	U	64.2

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110424-HM
Matrix: Air
Lab ID: 4111215-22
Sample Volume: 1908.242 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:32

Comments: Q8533692 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0909**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.282**		**0.00799**
Barium	**7440-39-3**	**3.24**		**0.912**
Beryllium	**7440-41-7**	**0.0105**		**0.00273**
Cadmium	7440-43-9	0.00713	U	0.0632
Chromium	**7440-47-3**	**2.18**		**1.88**
Cobalt	**7440-48-4**	**0.364**		**0.0372**
Copper	**7440-50-8**	**21.7**		**2.24**
Lead	**7439-92-1**	**0.366**		**0.182**
Manganese	**7439-96-5**	**12.7**		**1.61**
Molybdenum	**7439-98-7**	**1.31**		**0.306**
Nickel	**7440-02-0**	**1.23**		**0.556**
Selenium	**7782-49-2**	**0.189**		**0.00764**
Thallium	**7440-28-0**	**0.00115**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0451**
Zinc	7440-66-6	8.69	U	65.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110424-HM
Matrix: Air
Lab ID: 4111215-23
Sample Volume: 1898.891 m³
Filter ID:
Sampled: 11/04/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:47

Comments: Q8533685 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0196	SL, U	0.0331
Arsenic	7440-38-2	0.00220	U	0.00803
Barium	7440-39-3	0.798	U	0.917
Beryllium	7440-41-7	ND	U	0.00274
Cadmium	7440-43-9	7.31E-4	U	0.0635
Chromium	7440-47-3	0.745	U	1.89
Cobalt	7440-48-4	0.00874	U	0.0374
Copper	7440-50-8	0.363	U	2.25
Lead	7439-92-1	0.0318	U	0.183
Manganese	7439-96-5	0.146	U	1.62
Molybdenum	7439-98-7	0.129	U	0.308
Nickel	7440-02-0	0.375	U	0.559
Selenium	7782-49-2	0.00152	U	0.00768
Thallium	7440-28-0	1.59E-4	QB-04, U	5.05E-4
Vanadium	7440-62-2	0.00210	U	0.0453
Zinc	7440-66-6	4.10	U	65.8

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110524-HM
Matrix: Air
Lab ID: 4111215-24
Sample Volume: 1911.667 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:01

Comments: Q8533691 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.357**		**0.00797**
Barium	**7440-39-3**	**4.20**		**0.911**
Beryllium	**7440-41-7**	**0.00732**		**0.00272**
Cadmium	7440-43-9	0.0134	U	0.0631
Chromium	7440-47-3	1.64	U	1.88
Cobalt	**7440-48-4**	**0.251**		**0.0371**
Copper	**7440-50-8**	**29.6**		**2.24**
Lead	**7439-92-1**	**0.834**		**0.182**
Manganese	**7439-96-5**	**8.63**		**1.61**
Molybdenum	**7439-98-7**	**1.62**		**0.306**
Nickel	**7440-02-0**	**1.18**		**0.555**
Selenium	**7782-49-2**	**0.233**		**0.00763**
Thallium	**7440-28-0**	**8.53E-4**	QB-04	**5.01E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0450**
Zinc	7440-66-6	17.6	U	65.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110524-HM
Matrix: Air
Lab ID: 4111215-25
Sample Volume: 2163.183 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:16

Comments: Q8533690 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.375**		**0.00705**
Barium	**7440-39-3**	**3.44**		**0.805**
Beryllium	**7440-41-7**	**0.00791**		**0.00241**
Cadmium	7440-43-9	0.0107	U	0.0557
Chromium	**7440-47-3**	**1.81**		**1.66**
Cobalt	**7440-48-4**	**0.250**		**0.0328**
Copper	**7440-50-8**	**31.6**		**1.98**
Lead	**7439-92-1**	**0.607**		**0.161**
Manganese	**7439-96-5**	**8.84**		**1.42**
Molybdenum	**7439-98-7**	**1.57**		**0.270**
Nickel	**7440-02-0**	**1.36**		**0.490**
Selenium	**7782-49-2**	**0.216**		**0.00674**
Thallium	**7440-28-0**	**6.80E-4**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0398**
Zinc	7440-66-6	13.2	U	57.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110524-HM
Matrix: Air
Lab ID: 4111215-26
Sample Volume: 1946.684 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:30

Comments: Q8533688 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0687**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.168**		**0.00783**
Barium	**7440-39-3**	**3.21**		**0.894**
Beryllium	**7440-41-7**	**0.0119**		**0.00267**
Cadmium	7440-43-9	0.00736	U	0.0619
Chromium	**7440-47-3**	**2.12**		**1.85**
Cobalt	**7440-48-4**	**0.386**		**0.0364**
Copper	**7440-50-8**	**25.1**		**2.20**
Lead	**7439-92-1**	**0.277**		**0.179**
Manganese	**7439-96-5**	**11.2**		**1.58**
Molybdenum	**7439-98-7**	**1.22**		**0.300**
Nickel	**7440-02-0**	**1.42**		**0.545**
Selenium	**7782-49-2**	**0.247**		**0.00749**
Thallium	**7440-28-0**	**8.02E-4**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0442**
Zinc	7440-66-6	9.51	U	64.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110524-HM
Matrix: Air
Lab ID: 4111215-27
Sample Volume: 1886.53 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/13/24 21:25

Comments: Q8533684 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.269**		**0.00808**
Barium	**7440-39-3**	**2.99**		**0.923**
Beryllium	**7440-41-7**	**0.0100**		**0.00276**
Cadmium	7440-43-9	0.0161	U	0.0639
Chromium	**7440-47-3**	**1.94**		**1.91**
Cobalt	**7440-48-4**	**0.354**		**0.0376**
Copper	**7440-50-8**	**19.4**		**2.27**
Lead	**7439-92-1**	**0.258**		**0.185**
Manganese	**7439-96-5**	**13.0**		**1.63**
Molybdenum	**7439-98-7**	**1.24**		**0.310**
Nickel	**7440-02-0**	**1.63**	QM-07	**0.562**
Selenium	**7782-49-2**	**0.240**		**0.00773**
Thallium	**7440-28-0**	**0.00101**		**5.08E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0456**
Zinc	7440-66-6	12.3	U	66.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110624-HM
Matrix: Air
Lab ID: 4111215-28
Sample Volume: 1909.271 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:44

Comments: Q8533683 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.641**		**0.00798**
Barium	**7440-39-3**	**10.6**		**0.912**
Beryllium	**7440-41-7**	**0.0387**		**0.00273**
Cadmium	7440-43-9	0.0239	U	0.0631
Chromium	**7440-47-3**	**7.59**		**1.88**
Cobalt	**7440-48-4**	**1.94**		**0.0372**
Copper	**7440-50-8**	**34.3**		**2.24**
Lead	**7439-92-1**	**1.23**		**0.182**
Manganese	**7439-96-5**	**46.9**		**1.61**
Molybdenum	**7439-98-7**	**1.80**		**0.306**
Nickel	**7440-02-0**	**5.66**		**0.556**
Selenium	**7782-49-2**	**0.355**		**0.00764**
Thallium	**7440-28-0**	**0.00284**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**5.41**		**0.0451**
Zinc	7440-66-6	22.5	U	65.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110624-HM
Matrix: Air
Lab ID: 4111215-29
Sample Volume: 2087.208 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:59

Comments: Q8533682 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.553**		**0.00730**
Barium	**7440-39-3**	**8.95**		**0.834**
Beryllium	**7440-41-7**	**0.0276**		**0.00249**
Cadmium	**7440-43-9**	**0.0905**		**0.0578**
Chromium	**7440-47-3**	**4.52**		**1.72**
Cobalt	**7440-48-4**	**0.991**		**0.0340**
Copper	**7440-50-8**	**45.1**		**2.05**
Lead	**7439-92-1**	**1.94**		**0.167**
Manganese	**7439-96-5**	**29.5**		**1.47**
Molybdenum	**7439-98-7**	**2.05**		**0.280**
Nickel	**7440-02-0**	**3.06**		**0.508**
Selenium	**7782-49-2**	**0.336**		**0.00698**
Thallium	**7440-28-0**	**0.00228**	QB-04	**4.59E-4**
Vanadium	**7440-62-2**	**3.33**		**0.0412**
Zinc	7440-66-6	27.7	U	59.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110624-HM
Matrix: Air
Lab ID: 4111215-30
Sample Volume: 1965.987 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 09:33

Comments: Q8533681 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0576**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.224**		**0.00775**
Barium	**7440-39-3**	**4.54**		**0.886**
Beryllium	**7440-41-7**	**0.0458**		**0.00265**
Cadmium	7440-43-9	0.0148	U	0.0613
Chromium	**7440-47-3**	**4.52**		**1.83**
Cobalt	**7440-48-4**	**0.896**		**0.0361**
Copper	**7440-50-8**	**34.4**		**2.18**
Lead	**7439-92-1**	**0.628**		**0.177**
Manganese	**7439-96-5**	**22.2**		**1.56**
Molybdenum	**7439-98-7**	**1.87**		**0.297**
Nickel	**7440-02-0**	**2.64**		**0.540**
Selenium	**7782-49-2**	**0.320**		**0.00742**
Thallium	**7440-28-0**	**0.00213**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**2.22**		**0.0438**
Zinc	7440-66-6	12.2	U	63.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110624-HM
Matrix: Air
Lab ID: 4111215-31
Sample Volume: 1861.641 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 10:42

Comments: Q8533680 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0848**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.402**		**0.00819**
Barium	**7440-39-3**	**4.08**		**0.935**
Beryllium	**7440-41-7**	**0.0144**		**0.00280**
Cadmium	7440-43-9	0.0407	U	0.0648
Chromium	**7440-47-3**	**3.10**		**1.93**
Cobalt	**7440-48-4**	**0.549**		**0.0381**
Copper	**7440-50-8**	**21.9**		**2.30**
Lead	**7439-92-1**	**0.547**		**0.187**
Manganese	**7439-96-5**	**17.7**		**1.65**
Molybdenum	**7439-98-7**	**1.28**		**0.314**
Nickel	**7440-02-0**	**1.77**		**0.570**
Selenium	**7782-49-2**	**0.234**		**0.00783**
Thallium	**7440-28-0**	**0.00193**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0462**
Zinc	7440-66-6	10.6	U	67.1

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110624-HM
Matrix: Air
Lab ID: 4111215-32
Sample Volume: 1909.271 m³
Filter ID:
Sampled: 11/06/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 10:56

Comments: Q8533679 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0329
Arsenic	7440-38-2	0.00408	U	0.00798
Barium	7440-39-3	0.816	U	0.912
Beryllium	7440-41-7	1.48E-4	U	0.00273
Cadmium	7440-43-9	6.39E-4	U	0.0631
Chromium	7440-47-3	0.848	U	1.88
Cobalt	7440-48-4	0.0125	U	0.0372
Copper	7440-50-8	0.387	U	2.24
Lead	7439-92-1	0.0303	U	0.182
Manganese	7439-96-5	0.241	U	1.61
Molybdenum	7439-98-7	0.140	U	0.306
Nickel	7440-02-0	0.396	U	0.556
Selenium	7782-49-2	5.14E-4	U	0.00764
Thallium	7440-28-0	1.95E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0135	U	0.0451
Zinc	7440-66-6	3.87	U	65.4

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB1)				Prepared & Analyzed: 11/13/24						
Antimony	0.847		ng/l							
Arsenic	4.34		ng/l							
Barium	2.98		ng/l							
Beryllium	-0.966		ng/l							U
Cadmium	0.149		ng/l							
Chromium	-0.571		ng/l							U
Cobalt	0.181		ng/l							
Copper	26.1		ng/l							
Lead	14.0		ng/l							
Manganese	2.94		ng/l							
Molybdenum	25.2		ng/l							
Nickel	-1.89		ng/l							U
Selenium	3.74		ng/l							
Thallium	1.51		ng/l							QB-04
Vanadium	-68.7		ng/l							U
Zinc	-24.8		ng/l							U
Calibration Blank (2411029-CCB2)				Prepared & Analyzed: 11/13/24						
Antimony	0.304		ng/l							
Arsenic	2.79		ng/l							
Barium	1.74		ng/l							
Beryllium	-1.94		ng/l							U
Cadmium	0.0701		ng/l							
Chromium	0.783		ng/l							
Cobalt	0.107		ng/l							
Copper	12.9		ng/l							
Lead	5.90		ng/l							
Manganese	1.06		ng/l							
Molybdenum	6.21		ng/l							
Nickel	-1.90		ng/l							U
Selenium	4.84		ng/l							
Thallium	1.33		ng/l							
Vanadium	-75.7		ng/l							U
Zinc	-38.6		ng/l							U
Calibration Blank (2411029-CCB3)				Prepared & Analyzed: 11/13/24						
Antimony	0.701		ng/l							
Arsenic	5.39		ng/l							
Barium	2.93		ng/l							
Beryllium	-1.77		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB3) Contin				Prepared & Analyzed: 11/13/24						
Cadmium	0.0738		ng/l							
Chromium	1.45		ng/l							
Cobalt	0.182		ng/l							
Copper	11.0		ng/l							
Lead	3.34		ng/l							
Manganese	1.77		ng/l							
Molybdenum	4.63		ng/l							
Nickel	-0.549		ng/l							U
Selenium	6.86		ng/l							
Thallium	1.28		ng/l							
Vanadium	-75.6		ng/l							U
Zinc	-24.6		ng/l							U
Calibration Blank (2411029-CCB4)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.538		ng/l							
Arsenic	0.898		ng/l							
Barium	1.56		ng/l							
Beryllium	-2.38		ng/l							U
Cadmium	0.0830		ng/l							
Chromium	0.643		ng/l							
Cobalt	0.0663		ng/l							
Copper	7.37		ng/l							
Lead	2.55		ng/l							
Manganese	0.920		ng/l							
Molybdenum	5.20		ng/l							
Nickel	-0.914		ng/l							U
Selenium	8.80		ng/l							
Thallium	1.09		ng/l							
Vanadium	-76.8		ng/l							U
Zinc	-29.9		ng/l							U
Calibration Blank (2411029-CCB5)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.673		ng/l							
Arsenic	-0.353		ng/l							U
Barium	2.18		ng/l							
Beryllium	-2.29		ng/l							U
Cadmium	0.0343		ng/l							
Chromium	0.284		ng/l							
Cobalt	0.0750		ng/l							
Copper	17.6		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB5) Contin				Prepared: 11/13/24 Analyzed: 11/14/24						
Lead	3.44		ng/l							
Manganese	2.01		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-1.43		ng/l							U
Selenium	10.0		ng/l							
Thallium	1.55		ng/l							QB-04
Vanadium	-84.1		ng/l							U
Zinc	-23.2		ng/l							U
Calibration Blank (2411029-CCB6)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.495		ng/l							
Arsenic	2.68		ng/l							
Barium	2.26		ng/l							
Beryllium	-2.86		ng/l							U
Cadmium	-0.0284		ng/l							U
Chromium	2.26		ng/l							
Cobalt	0.169		ng/l							
Copper	9.53		ng/l							
Lead	2.46		ng/l							
Manganese	0.878		ng/l							
Molybdenum	6.20		ng/l							
Nickel	1.34		ng/l							
Selenium	4.80		ng/l							
Thallium	1.08		ng/l							
Vanadium	-79.9		ng/l							U
Zinc	-11.5		ng/l							U
Calibration Blank (2411029-CCB7)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.701		ng/l							
Arsenic	3.81		ng/l							
Barium	1.63		ng/l							
Beryllium	-2.67		ng/l							U
Cadmium	0.0450		ng/l							
Chromium	-0.201		ng/l							U
Cobalt	0.142		ng/l							
Copper	14.1		ng/l							
Lead	3.68		ng/l							
Manganese	1.16		ng/l							
Molybdenum	8.01		ng/l							
Nickel	-1.94		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB7) Contin				Prepared: 11/13/24 Analyzed: 11/14/24						
Selenium	9.98		ng/l							
Thallium	1.51		ng/l							QB-04
Vanadium	-88.9		ng/l							U
Zinc	-8.53		ng/l							U
Calibration Check (2411029-CCV1)				Prepared & Analyzed: 11/13/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.7	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2411029-CCV2)				Prepared & Analyzed: 11/13/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4970		ng/l	5000.0		99.5	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.1	90-110			
Thallium	487		ng/l	500.00		97.4	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	524000		ng/l	500000		105	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Check (2411029-CCV3)					Prepared & Analyzed: 11/13/24					
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5000		ng/l	5000.0		99.9	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	120000		ng/l	120000		99.6	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19300		ng/l	20000		96.3	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2411029-CCV4)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2411029-CCV5)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			

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REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Check (2411029-CCV5) Contin					Prepared: 11/13/24 Analyzed: 11/14/24					
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.0	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2411029-CCV6)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	4890		ng/l	5000.0		97.8	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Calibration Check (2411029-CCV7)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	232000		ng/l	240000		96.8	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			

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REPORTED: 11/19/24 11:11
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Check (2411029-CCV7) Contin					Prepared: 11/13/24 Analyzed: 11/14/24					
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	49700		ng/l	50000		99.3	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19100		ng/l	20000		95.7	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2411029-HCV1)					Prepared & Analyzed: 11/13/24					
Antimony	40000		ng/l	40000		100	95-105			
Arsenic	39700		ng/l	40000		99.3	95-105			
Barium	397000		ng/l	400000		99.3	95-105			
Beryllium	9830		ng/l	10000		98.3	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	474000		ng/l	480000		98.7	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.90E6		ng/l	4.0000E6		97.5	95-105			
Lead	396000		ng/l	400000		99.0	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	98800		ng/l	100000		98.8	95-105			
Nickel	235000		ng/l	240000		97.8	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			
Thallium	977		ng/l	1000.0		97.7	95-105			
Vanadium	39600		ng/l	40000		99.1	95-105			
Zinc	969000		ng/l	1.0000E6		96.9	95-105			
Initial Cal Blank (2411029-ICB1)					Prepared & Analyzed: 11/13/24					
Antimony	1.18		ng/l							
Arsenic	-0.688		ng/l							U
Barium	2.10		ng/l							
Beryllium	-0.979		ng/l							U
Cadmium	0.0439		ng/l							
Chromium	-0.0858		ng/l							U
Cobalt	0.196		ng/l							
Copper	23.5		ng/l							
Lead	13.6		ng/l							
Manganese	3.92		ng/l							
Molybdenum	9.00		ng/l							
Nickel	-3.77		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Initial Cal Blank (2411029-ICB1) Continu				Prepared & Analyzed: 11/13/24						
Selenium	10.0		ng/l							
Thallium	1.28		ng/l							
Vanadium	-65.7		ng/l							U
Zinc	-5.85		ng/l							U
Initial Cal Check (2411029-ICV1)				Prepared & Analyzed: 11/13/24						
Antimony	19500		ng/l	20000		97.5	90-110			
Arsenic	18900		ng/l	20000		94.7	90-110			
Barium	188000		ng/l	200000		93.9	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	229000		ng/l	240000		95.4	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	47900		ng/l	50000		95.8	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Interference Check A (2411029-IFA1)				Prepared & Analyzed: 11/13/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	311000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Interference Check B (2411029-IFB1)				Prepared & Analyzed: 11/13/24						
Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	200000		ng/l	200000		99.9	80-120			
Beryllium	4740		ng/l	5000.0		94.9	80-120			
Cadmium	19300		ng/l	20000		96.7	80-120			
Chromium	235000		ng/l	240000		97.8	80-120			
Cobalt	48500		ng/l	50000		96.9	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.2	80-120			
Lead	205000		ng/l	200000		102	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	364000		ng/l	350000		104	80-120			
Nickel	114000		ng/l	120000		95.0	80-120			
Selenium	18900		ng/l	20000		94.7	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.6	80-120			
Zinc	479000		ng/l	500000		95.8	80-120			
Batch B4K1305 - ICP-MS Extraction										
Blank (B4K1305-BLK1)				Prepared & Analyzed: 11/13/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K1305-BS1)				Prepared & Analyzed: 11/13/24						
Antimony	0.796	0.0386	ng/m³ Air	1.3829		57.5	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.6	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
LCS (B4K1305-BS1) Continued					Prepared & Analyzed: 11/13/24					
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.7	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.9	80-120			
Copper	30.0	2.63	ng/m³ Air	27.658		109	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.87	1.89	ng/m³ Air	8.2975		107	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.19	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.6	80-120			
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		100	80-120			QB-04
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.3	80-120			
Zinc	93.3	76.8	ng/m³ Air	82.975		112	80-120			
LCS (B4K1305-BS2)					Prepared & Analyzed: 11/13/24					
Antimony	0.783	0.0386	ng/m³ Air	1.3829		56.6	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.7	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.8	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.6	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.5	80-120			
Manganese	8.83	1.89	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.15	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.1	80-120			
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		97.1	80-120			
Zinc	93.4	76.8	ng/m³ Air	82.975		113	80-120			
Duplicate (B4K1305-DUP1)		**Source: 4111215-06**			Prepared & Analyzed: 11/13/24					
Antimony	0.160	0.0334	ng/m³ Air		0.155			3.06	10	SL
Arsenic	0.597	0.00811	ng/m³ Air		0.643			7.35	10	
Barium	6.89	0.926	ng/m³ Air		7.27			5.33	10	
Beryllium	0.0216	0.00277	ng/m³ Air		0.0230			6.42	10	
Cadmium	ND	0.0641	ng/m³ Air		ND				10	U
Chromium	4.29	1.91	ng/m³ Air		4.62			7.47	10	
Cobalt	0.984	0.0377	ng/m³ Air		1.04			5.56	10	

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Duplicate (B4K1305-DUP1) Continued			**Source: 4111215-06**		Prepared & Analyzed: 11/13/24					
Copper	62.4	2.28	ng/m³ Air		61.3			1.87	10	
Lead	1.58	0.185	ng/m³ Air		1.60			1.53	10	
Manganese	23.8	1.64	ng/m³ Air		25.2			5.46	10	
Molybdenum	2.32	0.311	ng/m³ Air		2.29			1.21	10	
Nickel	3.00	0.564	ng/m³ Air		3.17			5.66	10	
Selenium	0.200	0.00775	ng/m³ Air		0.201			0.910	10	
Thallium	0.00156	5.10E-4	ng/m³ Air		0.00165			5.46	10	QB-04
Vanadium	2.66	0.0458	ng/m³ Air		2.85			6.92	10	
Zinc	ND	66.5	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP2)			**Source: 4111215-27**		Prepared & Analyzed: 11/13/24					
Antimony	0.0899	0.0333	ng/m³ Air		0.133			38.6	10	SL
Arsenic	0.302	0.00808	ng/m³ Air		0.269			11.5	10	
Barium	3.04	0.923	ng/m³ Air		2.99			1.67	10	
Beryllium	0.0101	0.00276	ng/m³ Air		0.0100			1.33	10	
Cadmium	ND	0.0639	ng/m³ Air		ND				10	U
Chromium	1.98	1.91	ng/m³ Air		1.94			2.18	10	
Cobalt	0.338	0.0376	ng/m³ Air		0.354			4.71	10	
Copper	18.6	2.27	ng/m³ Air		19.4			4.00	10	
Lead	0.259	0.185	ng/m³ Air		0.258			0.515	10	
Manganese	12.6	1.63	ng/m³ Air		13.0			3.22	10	
Molybdenum	1.17	0.310	ng/m³ Air		1.24			5.95	10	
Nickel	1.27	0.562	ng/m³ Air		1.63			24.5	10	
Selenium	0.234	0.00773	ng/m³ Air		0.240			2.64	10	
Thallium	9.36E-4	5.08E-4	ng/m³ Air		0.00101			7.27	10	
Vanadium	1.31	0.0456	ng/m³ Air		1.32			0.231	10	
Zinc	ND	66.2	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP3)			**Source: 4111215-12**		Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	0.0644	0.0329	ng/m³ Air		0.0640			0.501	10	SL
Arsenic	0.129	0.00798	ng/m³ Air		0.131			1.69	10	
Barium	2.20	0.912	ng/m³ Air		2.21			0.288	10	
Beryllium	0.00713	0.00273	ng/m³ Air		0.00728			2.06	10	
Cadmium	ND	0.0631	ng/m³ Air		ND				10	U
Chromium	ND	1.88	ng/m³ Air		ND				10	U
Cobalt	0.236	0.0372	ng/m³ Air		0.236			0.0184	10	
Copper	33.8	2.24	ng/m³ Air		33.9			0.548	10	
Lead	0.417	0.182	ng/m³ Air		0.418			0.279	10	
Manganese	6.09	1.61	ng/m³ Air		6.07			0.336	10	
Molybdenum	1.35	0.306	ng/m³ Air		1.36			0.664	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Duplicate (B4K1305-DUP3) Continued		**Source: 4111215-12**			Prepared: 11/13/24 Analyzed: 11/14/24					
Nickel	1.11	0.556	ng/m³ Air		1.11			0.261	10	
Selenium	0.183	0.00764	ng/m³ Air		0.184			0.833	10	
Thallium	0.00212	5.02E-4	ng/m³ Air		0.00211			0.442	10	QB-04
Vanadium	0.861	0.0451	ng/m³ Air		0.869			0.869	10	
Zinc	ND	65.4	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP4)		**Source: 4111215-29**			Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	0.157	0.0301	ng/m³ Air		0.153			2.27	10	SL
Arsenic	0.559	0.00730	ng/m³ Air		0.553			1.13	10	
Barium	9.06	0.834	ng/m³ Air		8.95			1.20	10	
Beryllium	0.0271	0.00249	ng/m³ Air		0.0276			1.81	10	
Cadmium	0.0915	0.0578	ng/m³ Air		0.0905			1.12	10	
Chromium	4.55	1.72	ng/m³ Air		4.52			0.455	10	
Cobalt	0.999	0.0340	ng/m³ Air		0.991			0.811	10	
Copper	45.4	2.05	ng/m³ Air		45.1			0.607	10	
Lead	1.96	0.167	ng/m³ Air		1.94			1.00	10	
Manganese	29.7	1.47	ng/m³ Air		29.5			0.622	10	
Molybdenum	2.11	0.280	ng/m³ Air		2.05			3.00	10	
Nickel	3.10	0.508	ng/m³ Air		3.06			1.13	10	
Selenium	0.340	0.00698	ng/m³ Air		0.336			1.00	10	
Thallium	0.00223	4.59E-4	ng/m³ Air		0.00228			2.59	10	QB-04
Vanadium	3.34	0.0412	ng/m³ Air		3.33			0.122	10	
Zinc	ND	59.9	ng/m³ Air		ND				10	U
Matrix Spike (B4K1305-MS1)		**Source: 4111215-06**			Prepared & Analyzed: 11/13/24					
Antimony	0.799	0.0334	ng/m³ Air	1.1969	0.155	53.8	80-120			SL
Arsenic	2.88	0.00811	ng/m³ Air	2.3938	0.643	93.5	80-120			
Barium	31.3	0.926	ng/m³ Air	23.938	7.27	100	80-120			
Beryllium	1.20	0.00277	ng/m³ Air	1.1969	0.0230	98.0	80-120			
Cadmium	1.21	0.0641	ng/m³ Air	1.1969	ND	101	80-120			
Chromium	16.8	1.91	ng/m³ Air	11.969	4.62	102	80-120			
Cobalt	2.25	0.0377	ng/m³ Air	1.1969	1.04	101	80-120			
Copper	86.5	2.28	ng/m³ Air	23.938	61.3	105	80-120			
Lead	13.7	0.185	ng/m³ Air	11.969	1.60	101	80-120			
Manganese	33.2	1.64	ng/m³ Air	7.1813	25.2	111	80-120			
Molybdenum	3.47	0.311	ng/m³ Air	1.1969	2.29	98.0	80-120			
Nickel	5.70	0.564	ng/m³ Air	2.3938	3.17	106	80-120			
Selenium	2.49	0.00775	ng/m³ Air	2.3938	0.201	95.8	80-120			
Thallium	0.115	5.10E-4	ng/m³ Air	0.11969	0.00165	94.5	80-120			QB-04
Vanadium	5.23	0.0458	ng/m³ Air	2.3938	2.85	99.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Matrix Spike (B4K1305-MS1) Continued Source: 4111215-06 Prepared & Analyzed: 11/13/24										
Zinc	103	66.5	ng/m³ Air	71.813	ND	143	80-120			
Matrix Spike (B4K1305-MS2) Source: 4111215-27 Prepared & Analyzed: 11/13/24										
Antimony	0.769	0.0333	ng/m³ Air	1.1927	0.133	53.4	80-120			SL
Arsenic	2.55	0.00808	ng/m³ Air	2.3853	0.269	95.5	80-120			
Barium	26.3	0.923	ng/m³ Air	23.853	2.99	97.6	80-120			
Beryllium	1.17	0.00276	ng/m³ Air	1.1927	0.0100	97.4	80-120			
Cadmium	1.20	0.0639	ng/m³ Air	1.1927	ND	101	80-120			
Chromium	13.6	1.91	ng/m³ Air	11.927	1.94	97.8	80-120			
Cobalt	1.54	0.0376	ng/m³ Air	1.1927	0.354	99.2	80-120			
Copper	43.5	2.27	ng/m³ Air	23.853	19.4	101	80-120			
Lead	12.4	0.185	ng/m³ Air	11.927	0.258	102	80-120			
Manganese	20.7	1.63	ng/m³ Air	7.1560	13.0	108	80-120			
Molybdenum	2.39	0.310	ng/m³ Air	1.1927	1.24	96.4	80-120			
Nickel	4.12	0.562	ng/m³ Air	2.3853	1.63	105	80-120			
Selenium	2.49	0.00773	ng/m³ Air	2.3853	0.240	94.2	80-120			
Thallium	0.120	5.08E-4	ng/m³ Air	0.11927	0.00101	99.6	80-120			
Vanadium	3.58	0.0456	ng/m³ Air	2.3853	1.32	95.0	80-120			
Zinc	87.8	66.2	ng/m³ Air	71.560	ND	123	80-120			
Matrix Spike Dup (B4K1305-MSD1) Source: 4111215-06 Prepared & Analyzed: 11/13/24										
Antimony	0.787	0.0334	ng/m³ Air	1.1969	0.155	52.8	80-120	1.60	20	SL
Arsenic	2.84	0.00811	ng/m³ Air	2.3938	0.643	91.9	80-120	1.33	20	
Barium	30.6	0.926	ng/m³ Air	23.938	7.27	97.4	80-120	2.16	20	
Beryllium	1.17	0.00277	ng/m³ Air	1.1969	0.0230	95.8	80-120	2.25	20	
Cadmium	1.19	0.0641	ng/m³ Air	1.1969	ND	99.2	80-120	1.75	20	
Chromium	16.6	1.91	ng/m³ Air	11.969	4.62	100	80-120	1.17	20	
Cobalt	2.22	0.0377	ng/m³ Air	1.1969	1.04	98.4	80-120	1.50	20	
Copper	86.3	2.28	ng/m³ Air	23.938	61.3	104	80-120	0.220	20	
Lead	13.6	0.185	ng/m³ Air	11.969	1.60	101	80-120	0.301	20	
Manganese	33.1	1.64	ng/m³ Air	7.1813	25.2	110	80-120	0.304	20	
Molybdenum	3.42	0.311	ng/m³ Air	1.1969	2.29	94.1	80-120	1.36	20	
Nickel	5.55	0.564	ng/m³ Air	2.3938	3.17	99.6	80-120	2.58	20	
Selenium	2.47	0.00775	ng/m³ Air	2.3938	0.201	94.9	80-120	0.793	20	
Thallium	0.114	5.10E-4	ng/m³ Air	0.11969	0.00165	94.3	80-120	0.273	20	QB-04
Vanadium	5.13	0.0458	ng/m³ Air	2.3938	2.85	95.3	80-120	1.88	20	
Zinc	100	66.5	ng/m³ Air	71.813	ND	140	80-120	2.02	20	
Matrix Spike Dup (B4K1305-MSD2) Source: 4111215-27 Prepared & Analyzed: 11/13/24										
Antimony	0.742	0.0333	ng/m³ Air	1.1927	0.133	51.1	80-120	3.56	20	SL
Arsenic	2.58	0.00808	ng/m³ Air	2.3853	0.269	96.8	80-120	1.21	20	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Matrix Spike Dup (B4K1305-MSD2) Conti			**Source: 4111215-27**			Prepared & Analyzed: 11/13/24				
Barium	26.5	0.923	ng/m³ Air	23.853	2.99	98.5	80-120	0.765	20	
Beryllium	1.18	0.00276	ng/m³ Air	1.1927	0.0100	97.8	80-120	0.419	20	
Cadmium	1.20	0.0639	ng/m³ Air	1.1927	ND	100	80-120	0.180	20	
Chromium	13.7	1.91	ng/m³ Air	11.927	1.94	99.0	80-120	1.04	20	
Cobalt	1.52	0.0376	ng/m³ Air	1.1927	0.354	97.7	80-120	1.15	20	
Copper	44.7	2.27	ng/m³ Air	23.853	19.4	106	80-120	2.62	20	
Lead	12.5	0.185	ng/m³ Air	11.927	0.258	102	80-120	0.435	20	
Manganese	20.3	1.63	ng/m³ Air	7.1560	13.0	102	80-120	2.30	20	
Molybdenum	2.27	0.310	ng/m³ Air	1.1927	1.24	86.7	80-120	4.94	20	
Nickel	3.49	0.562	ng/m³ Air	2.3853	1.63	77.9	80-120	16.7	20	QM-07
Selenium	2.52	0.00773	ng/m³ Air	2.3853	0.240	95.6	80-120	1.35	20	
Thallium	0.119	5.08E-4	ng/m³ Air	0.11927	0.00101	98.7	80-120	0.887	20	
Vanadium	3.66	0.0456	ng/m³ Air	2.3853	1.32	98.1	80-120	2.02	20	
Zinc	84.8	66.2	ng/m³ Air	71.560	ND	119	80-120	3.49	20	
Post Spike (B4K1305-PS1)			**Source: 4111215-06**			Prepared & Analyzed: 11/13/24				
Antimony	0.392	0.0334	ng/m³ Air	0.23938	0.155	99.0	75-125			SL
Arsenic	1.75	0.00811	ng/m³ Air	1.1969	0.643	92.8	75-125			
Barium	9.65	0.926	ng/m³ Air	2.3938	7.27	99.5	75-125			
Beryllium	0.254	0.00277	ng/m³ Air	0.23938	0.0230	96.5	75-125			
Cadmium	0.136	0.0641	ng/m³ Air	0.11969	ND	114	75-125			
Chromium	5.81	1.91	ng/m³ Air	1.1969	4.62	99.4	75-125			
Cobalt	1.29	0.0377	ng/m³ Air	0.23938	1.04	104	75-125			
Copper	74.0	2.28	ng/m³ Air	11.969	61.3	106	75-125			
Lead	25.3	0.185	ng/m³ Air	23.938	1.60	98.9	75-125			
Manganese	28.0	1.64	ng/m³ Air	2.3938	25.2	118	75-125			
Molybdenum	3.35	0.311	ng/m³ Air	1.1969	2.29	88.6	75-125			
Nickel	5.57	0.564	ng/m³ Air	2.3938	3.17	100	75-125			
Selenium	1.35	0.00775	ng/m³ Air	1.1969	0.201	96.0	75-125			
Thallium	0.0593	5.10E-4	ng/m³ Air	5.9844E-2	0.00165	96.3	75-125			QB-04
Vanadium	3.99	0.0458	ng/m³ Air	1.1969	2.85	95.3	75-125			
Zinc	ND	66.5	ng/m³ Air	23.938	ND		75-125			U
Post Spike (B4K1305-PS2)			**Source: 4111215-27**			Prepared & Analyzed: 11/13/24				
Antimony	0.367	0.0333	ng/m³ Air	0.23853	0.133	98.2	75-125			SL
Arsenic	1.36	0.00808	ng/m³ Air	1.1927	0.269	91.3	75-125			
Barium	5.21	0.923	ng/m³ Air	2.3853	2.99	92.8	75-125			
Beryllium	0.241	0.00276	ng/m³ Air	0.23853	0.0100	96.8	75-125			
Cadmium	0.134	0.0639	ng/m³ Air	0.11927	ND	113	75-125			
Chromium	3.06	1.91	ng/m³ Air	1.1927	1.94	94.4	75-125			

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Post Spike (B4K1305-PS2) Continued		**Source: 4111215-27**		Prepared & Analyzed: 11/13/24						
Cobalt	0.585	0.0376	ng/m³ Air	0.23853	0.354	96.6	75-125			
Copper	31.9	2.27	ng/m³ Air	11.927	19.4	105	75-125			
Lead	23.8	0.185	ng/m³ Air	23.853	0.258	98.9	75-125			
Manganese	15.4	1.63	ng/m³ Air	2.3853	13.0	102	75-125			
Molybdenum	2.33	0.310	ng/m³ Air	1.1927	1.24	91.4	75-125			
Nickel	3.96	0.562	ng/m³ Air	2.3853	1.63	97.6	75-125			
Selenium	1.38	0.00773	ng/m³ Air	1.1927	0.240	95.8	75-125			
Thallium	0.0603	5.08E-4	ng/m³ Air	5.9633E-2	0.00101	99.4	75-125			
Vanadium	2.43	0.0456	ng/m³ Air	1.1927	1.32	93.8	75-125			
Zinc	ND	66.2	ng/m³ Air	23.853	ND		75-125			U
Dilution Check (B4K1305-SRL1)		**Source: 4111215-06**		Prepared & Analyzed: 11/13/24						
Antimony	ND	0.167	ng/m³ Air		ND				10	SL, U
Arsenic	0.627	0.0405	ng/m³ Air		0.643			2.56	10	
Barium	6.96	4.63	ng/m³ Air		7.27			4.34	10	
Beryllium	0.0215	0.0138	ng/m³ Air		0.0230			6.75	10	
Cadmium	ND	0.321	ng/m³ Air		ND				10	U
Chromium	ND	9.56	ng/m³ Air		ND				10	U
Cobalt	1.01	0.189	ng/m³ Air		1.04			2.51	10	
Copper	62.4	11.4	ng/m³ Air		61.3			1.76	10	
Lead	1.50	0.926	ng/m³ Air		1.60			6.32	10	
Manganese	24.4	8.18	ng/m³ Air		25.2			3.19	10	
Molybdenum	2.25	1.55	ng/m³ Air		2.29			2.12	10	
Nickel	3.11	2.82	ng/m³ Air		3.17			1.90	10	
Selenium	0.203	0.0388	ng/m³ Air		0.201			0.670	10	
Thallium	0.00475	0.00255	ng/m³ Air		ND			96.8	10	QB-04
Vanadium	2.71	0.229	ng/m³ Air		2.85			5.11	10	
Zinc	ND	332	ng/m³ Air		ND				10	U
Dilution Check (B4K1305-SRL2)		**Source: 4111215-27**		Prepared & Analyzed: 11/13/24						
Antimony	ND	0.166	ng/m³ Air		ND				10	SL, U
Arsenic	0.274	0.0404	ng/m³ Air		0.269			1.93	10	
Barium	ND	4.61	ng/m³ Air		ND				10	U
Beryllium	ND	0.0138	ng/m³ Air		ND				10	U
Cadmium	ND	0.320	ng/m³ Air		ND				10	U
Chromium	ND	9.53	ng/m³ Air		ND				10	U
Cobalt	0.364	0.188	ng/m³ Air		0.354			2.76	10	
Copper	19.9	11.3	ng/m³ Air		19.4			2.74	10	
Lead	ND	0.923	ng/m³ Air		ND				10	U
Manganese	13.1	8.15	ng/m³ Air		13.0			1.10	10	

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Dilution Check (B4K1305-SRL2) ContinueSource: 4111215-27 Prepared & Analyzed: 11/13/24										
Molybdenum	ND	1.55	ng/m³ Air		ND				10	U
Nickel	ND	2.81	ng/m³ Air		ND				10	U
Selenium	0.261	0.0386	ng/m³ Air		0.240			8.18	10	
Thallium	0.00260	0.00254	ng/m³ Air		ND			88.3	10	
Vanadium	1.34	0.228	ng/m³ Air		1.32			1.79	10	
Zinc	ND	331	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/20/2024 and Shanna Vasser 11/25/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/31/2024 – 11/06/2024
Report No: 4111215

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for antimony in MFL-FB01-103124-HM

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

November 7 through November 13, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from November 7 through November 13, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from November 7 through November 13 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of equipment maintenance, the air monitoring period was interrupted for one hour on November 12 at Lahaina Recreational Center (AM07), and Opukea Townhomes (AM-05) resulting in the collection of 23 hours of PM_{10} data at each of the locations.
- Because of an equipment fault, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) for three hours on November 13, resulting in the collection of 21 hours of PM_{10} data

The equipment fault on November 13 was the result of a disruption during two sampling intervals within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 21-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

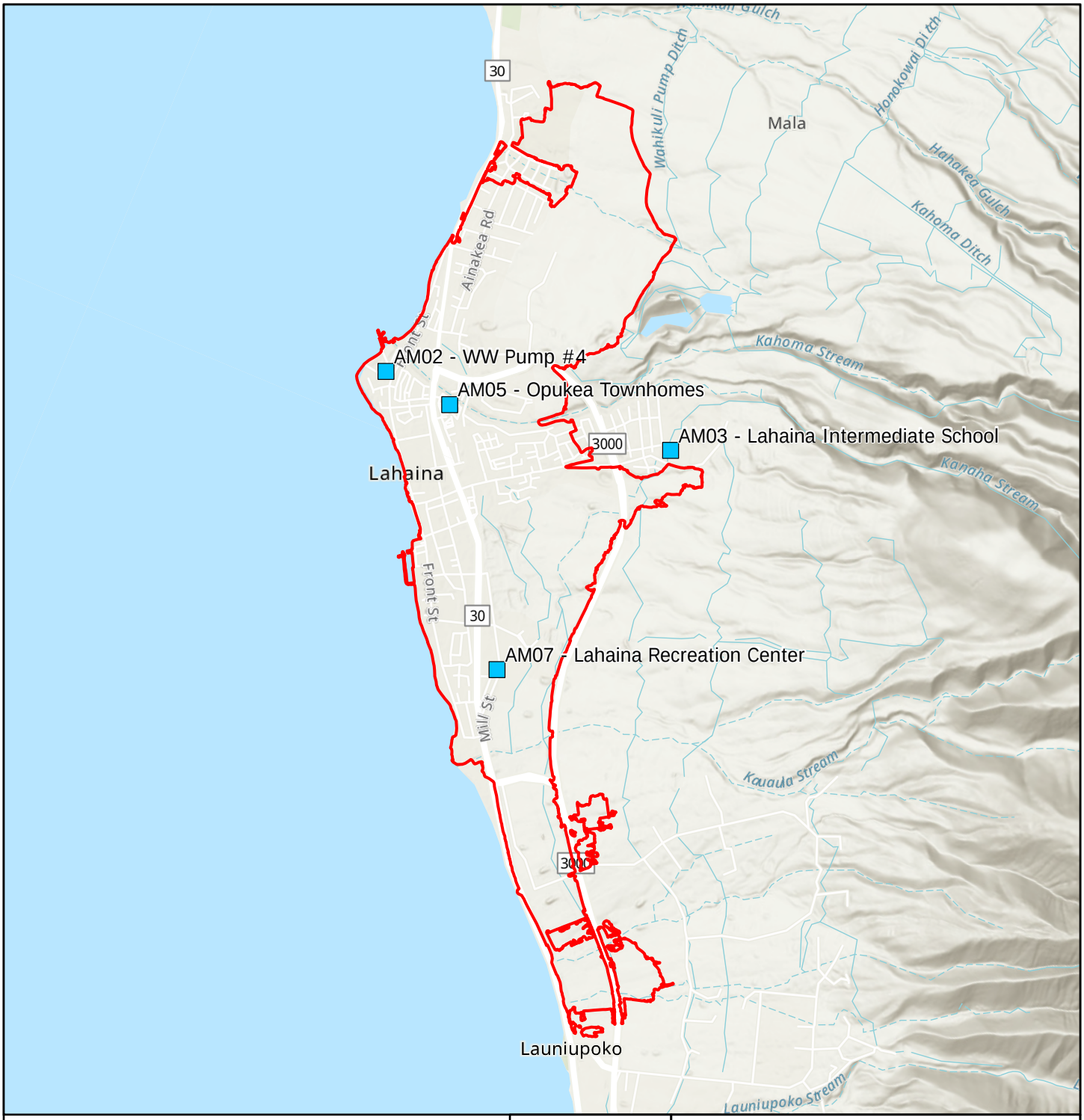
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
November 7 through November 13, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
11/7/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	15
	Lahaina Recreation Center (AM-07)	5.3
11/8/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Recreation Center (AM-07)	4.8
11/9/2024	Opukea Townhomes (AM-05)	6.4
	WW Pump Station #4 (AM-02)	5.5
	Lahaina Intermediate School (AM-03)	11
	Lahaina Recreation Center (AM-07)	3.0
11/10/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	5.3
	Lahaina Recreation Center (AM-07)	5.0
11/11/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	5.0
11/12/2024	Opukea Townhomes (AM-05)	8.7*
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Recreation Center (AM-07)	7.0*
11/13/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	7.0**
	Lahaina Intermediate School (AM-03)	7.5
	Lahaina Recreation Center (AM-07)	7.8

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided were from a reduced (23-hr) TWA calculation because of equipment maintenance
** Data provided were from a reduced (21-hr) TWA calculation because of an equipment fault

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
November 7 through November 13, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
11/7/2024	Opukea Townhomes (AM-05)	<0.0024	0.000127	0.000695	0.0137	0.0000585	ND	0.0114	0.00278	0.0724	0.00104	0.0619	0.00377	0.00801	0.000282	0.00000345	0.00787	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000162	0.000682	0.0118	0.0000417	0.000155	0.00707	0.00162	0.0436	0.00231	0.0430	0.00203	0.00497	0.000245	0.00000272	0.00492	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000540	0.000200	0.00456	0.0000499	ND	0.00483	0.000924	0.0343	0.000441	0.0210	0.00179	0.00262	0.000197	0.00000210	0.00231	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000988	0.000658	0.00562	0.0000303	ND	0.00433	0.00101	0.0181	0.000768	0.0350	0.00100	0.00236	0.000210	0.00000240	0.00261	ND
11/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.000129	0.000412	0.00667	0.0000185	ND	0.00377	0.000812	0.0220	0.00143	0.0206	0.00121	0.00253	0.000147	0.00000124	0.00234	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000163	0.000481	0.00700	0.0000186	ND	0.00353	0.000706	0.0402	0.00132	0.0193	0.00218	0.00216	0.000146	0.00000118	0.00210	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000561	0.000114	0.00274	0.0000184	ND	0.00212	0.000359	0.0319	0.000345	0.00893	0.00171	0.00120	0.000112	0.000000698	0.000826	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000876	0.000270	0.00339	0.0000111	ND	0.00213	0.000369	0.0281	0.000609	0.0121	0.00125	0.00117	0.000133	0.000000792	0.00106	ND
11/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000316	0.00463	0.0000103	ND	0.00227	0.000442	0.0200	0.000810	0.0118	0.00115	0.00143	0.000183	0.00000108	0.00128	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000201	0.000568	0.00622	0.0000150	ND	0.00286	0.000513	0.0386	0.00103	0.0153	0.00195	0.00182	0.000196	0.00000130	0.00161	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000389	0.000707	0.0155	0.000315	ND	0.0163	0.00411	0.0412	0.000875	0.0956	0.00199	0.00832	0.000663	0.00000541	0.0114	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000246	0.00289	0.00000818	ND	0.00230	0.000315	0.0220	0.000285	0.00964	0.00128	0.00127	0.000166	0.000000968	0.000854	ND
11/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000978	0.000222	0.00355	0.00000833	ND	ND	0.000259	0.0221	0.000541	0.00859	0.00137	0.000998	0.000177	0.000000932	0.000832	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000145	0.000503	0.00523	0.00000996	ND	0.00260	0.000354	0.0473	0.000933	0.0104	0.00220	0.00152	0.000189	0.000000817	0.00110	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000418	0.0000999	0.00212	0.00000886	ND	ND	0.000180	0.0401	0.000227	0.00467	0.00222	0.000837	0.000162	0.000000648	0.000532	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000837	0.000148	0.00248	0.00000539	ND	0.00228	0.000219	0.0195	0.000198	0.00635	0.00116	0.00140	0.000158	0.000000597	0.000687	ND
11/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.000122	0.000264	0.00495	0.00000785	ND	0.00209	0.000307	0.0268	0.000566	0.00955	0.00170	0.00118	0.000185	0.00000106	0.00120	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000196	0.000584	0.00764	0.0000143	ND	0.00292	0.000578	0.0437	0.00129	0.0176	0.00225	0.00186	0.000215	0.00000117	0.00204	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000500	0.0000963	0.00278	0.00000786	ND	ND	0.000220	0.0392	0.000244	0.00591	0.00237	0.000980	0.000162	0.00000102	0.000803	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000836	0.0000970	0.00402	0.00000504	ND	ND	0.000150	0.0191	0.000196	0.00523	0.00130	0.000782	0.000156	0.000000761	0.000724	ND
11/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000155	0.000282	0.00619	0.0000128	ND	0.00258	0.000461	0.0331	0.000731	0.0133	0.00190	0.00180	0.000248	0.00000136	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000249	0.000789	0.00779	0.0000191	ND	0.00305	0.000606	0.0484	0.00142	0.0183	0.00224	0.00207	0.000269	0.00000145	0.00216	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000567	0.000170	0.00362	0.0000177	ND	0.00245	0.000462	0.0491	0.000342	0.0120	0.00285	0.00158	0.000241	0.00000122	0.00143	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000994	0.000655	0.00638	0.0000278	ND	0.00475	0.000970	0.0212	0.000597	0.0325	0.00126	0.00254	0.000294	0.00000193	0.00282	ND
11/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000107	0.000268	0.00490	0.0000110	ND	0.00269	0.000424	0.0279	0.000844	0.0120	0.00161	0.00170	0.000172	0.000000944	0.00133	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.00105	0.00676	0.0146	0.0000270	0.0000584	0.00608	0.00113	0.0700	0.0179	0.0294	0.00216	0.00320	0.000217	0.00000168	0.00270	0.0770
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000618	0.000139	0.00372	0.0000170	ND	0.00244	0.000425	0.0458	0.000402	0.0106	0.00276	0.00155	0.000165	0.000000903	0.00104	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000107	0.000661	0.00569	0.0000252	ND	0.00397	0.000868	0.0174	0.000439	0.0313	0.00114	0.00213	0.000217	0.00000165	0.00247	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.000770	0.00740	0.0000350	NA	0.00509	0.00102	0.0407	0.00157	0.0276	0.00208	0.00278	0.000230	0.00000180	0.00288	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
November 7, through November 13, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/7/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	762.4
11/7/2024	AM-03	Lahaina Intermediate School	1.3	SE	79	62	753.0
11/7/2024	AM-05	Opukea Townhomes	1.7	ESE	80	63	761.9
11/7/2024	AM-07	Lahaina Recreational Center	1.3	SSE	81	65	761.7
11/8/2024	AM-02	WW Pump Station #4	1.0	S	79	65	763.1
11/8/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	63	753.8
11/8/2024	AM-05	Opukea Townhomes	1.2	SE	80	61	762.7
11/8/2024	AM-07	Lahaina Recreational Center	1.3	SSE	80	66	762.4
11/9/2024	AM-02	WW Pump Station #4	1.1	SSE	79	64	763.8
11/9/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	62	754.4
11/9/2024	AM-05	Opukea Townhomes	1.3	ESE	80	60	763.3
11/9/2024	AM-07	Lahaina Recreational Center	1.2	SSE	80	66	763.0
11/10/2024	AM-02	WW Pump Station #4	1.0	SSE	79	63	763.8
11/10/2024	AM-03	Lahaina Intermediate School	0.9	ESE	78	61	754.4
11/10/2024	AM-05	Opukea Townhomes	1.1	SSE	80	58	763.3
11/10/2024	AM-07	Lahaina Recreational Center	1.5	SSE	79	64	763.1
11/11/2024	AM-02	WW Pump Station #4	0.8	S	79	66	763.8
11/11/2024	AM-03	Lahaina Intermediate School	0.9	SE	78	64	754.5
11/11/2024	AM-05	Opukea Townhomes	0.9	SE	79	62	763.4
11/11/2024	AM-07	Lahaina Recreational Center	1.1	SSE	79	67	763.1
11/12/2024	AM-02	WW Pump Station #4	1.0	SSE	80	66	763.9
11/12/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	754.6
11/12/2024	AM-05	Opukea Townhomes	1.2	SE	80	62	763.4
11/12/2024	AM-07	Lahaina Recreational Center	1.3	SSE	79	68	763.2
11/13/2024	AM-02	WW Pump Station #4	1.6	SE	81	65	763.3
11/13/2024	AM-03	Lahaina Intermediate School	1.4	SE	78	66	754.1
11/13/2024	AM-05	Opukea Townhomes	1.5	ESE	80	62	762.8
11/13/2024	AM-07	Lahaina Recreational Center	1.5	S	79	65	762.6

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110724-AB**	**Sample Description:**	**DL264128**
EMSL Sample Number:	042423403-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7221.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0001 **Customer Sample:** MFL-AM05-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J3	None Detected									
A5	F1	None Detected									
A5	B5	None Detected									
A6	C8	None Detected									
A6	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110724-AB**	**Sample Description:**	**DL264131**
EMSL Sample Number:	042423403-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0002 **Customer Sample:** MFL-AM02-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	F10	None Detected									
B1	G7	None Detected									
B1	H4	None Detected									
B2	I4	None Detected									
B2	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110724-AB**	**Sample Description:**	**DL264127**
EMSL Sample Number:	042423403-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7159.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0003 **Customer Sample:** MFL-AM03-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	G4	None Detected									
B5	C7	None Detected									
B6	A5	None Detected									
B6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110724-AB**	**Sample Description:**	**DL264190**
EMSL Sample Number:	042423403-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7212.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0004 **Customer Sample:** MFL-AM07-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G7	None Detected									
C1	E9	None Detected									
C1	B7	None Detected									
C2	J7	None Detected									
C2	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110724-AB**		**Sample Description:**	**DL264139**
EMSL Sample Number:	042423403-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0005 **Customer Sample:** MFL-FB01-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A3	None Detected									
C5	C7	None Detected									
C5	E7	None Detected									
C5	G5	None Detected									
C5	I8	None Detected									
C6	A1	None Detected									
C6	C3	None Detected									
C6	E2	None Detected									
C6	G1	None Detected									
C6	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-110724-AB**		**Sample Description:**	**DL264147**
EMSL Sample Number:	042423403-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0006 **Customer Sample:** MFL-LB01-110724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A3	None Detected									
D1	C9	None Detected									
D1	D5	None Detected									
D1	E1	None Detected									
D1	I3	None Detected									
D2	A3	None Detected									
D2	B9	None Detected									
D2	D8	None Detected									
D2	E3	None Detected									
D2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110824-AB**	**Sample Description:**	**DL264189**
EMSL Sample Number:	042423403-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7163.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0007 **Customer Sample:** MFL-AM05-110824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A8	None Detected									
D5	D7	None Detected									
D5	G10	None Detected									
D6	D8	None Detected									
D6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110824-AB**		**Sample Description:**	**DL264129**
EMSL Sample Number:	042423403-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6722.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0008 **Customer Sample:** MFL-AM02-110824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I3	None Detected									
E1	F7	None Detected									
E1	C9	None Detected									
E2	H7	None Detected									
E2	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110824-AB**		**Sample Description:**	**DL264135**
EMSL Sample Number:	042423403-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0009 **Customer Sample:** MFL-AM03-110824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J8	None Detected									
E5	G5	None Detected									
E5	D4	None Detected									
E6	D7	None Detected									
E6	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110824-AB**	**Sample Description:**	**DL264199**
EMSL Sample Number:	042423403-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7214.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0010 **Customer Sample:** MFL-AM07-110824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	C8	None Detected									
F2	D4	None Detected									
F2	G9	None Detected									
F3	C9	None Detected									
F3	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110824-AB** **Sample Description: DL264107**

EMSL Sample Number:	042423403-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0011 **Customer Sample:** MFL-FB01-110824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C5	None Detected									
F5	E9	None Detected									
F5	G10	None Detected									
F5	J5	None Detected									
F7	J4	None Detected									
F7	H2	None Detected									
F7	F1	None Detected									
F7	D5	None Detected									
F7	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110924-AB**	**Sample Description:**	**DL264124**
EMSL Sample Number:	042423403-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7143.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0012 **Customer Sample:** MFL-AM05-110924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A6	None Detected									
G1	D10	None Detected									
G1	F7	None Detected									
G2	J4	None Detected									
G2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110924-AB**		**Sample Description:**	**DL264136**
EMSL Sample Number:	042423403-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6888.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0013 **Customer Sample:** MFL-AM02-110924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A6	None Detected									
G5	D5	None Detected									
G5	G5	None Detected									
G6	J4	None Detected									
G6	D1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110924-AB**		**Sample Description:**	**DL264137**
EMSL Sample Number:	042423403-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0014 **Customer Sample:** MFL-AM03-110924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J4	None Detected									
H1	H6	None Detected									
H1	E10	None Detected									
H2	J8	None Detected									
H2	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110924-AB**	**Sample Description:**	**DL264144**
EMSL Sample Number:	042423403-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7238.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0015 **Customer Sample:** MFL-AM07-110924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	C3	None Detected									
H5	F2	None Detected									
H5	H1	None Detected									
H6	J8	None Detected									
H6	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110924-AB**		**Sample Description:**	**DL264115**
EMSL Sample Number:	042423403-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0016 **Customer Sample:** MFL-FB01-110924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A8	None Detected									
I2	C10	None Detected									
I2	E4	None Detected									
I2	G6	None Detected									
I2	I4	None Detected									
I3	A8	None Detected									
I3	C10	None Detected									
I3	E10	None Detected									
I3	G7	None Detected									
I3	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111024-AB**	**Sample Description:**	**DL264106**
EMSL Sample Number:	042423403-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7179.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0017 **Customer Sample:** MFL-AM05-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J4	None Detected									
I5	G2	None Detected									
I5	C3	None Detected									
I6	J6	None Detected									
I6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111024-AB**		**Sample Description:**	**DL264117**
EMSL Sample Number:	042423403-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6556.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0018 **Customer Sample:** MFL-AM02-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J8	None Detected									
J1	G6	None Detected									
J1	E2	None Detected									
J2	H5	None Detected									
J2	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-111024-AB**	**Sample Description:**	**DL264170**
EMSL Sample Number:	042423403-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7188.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0019 **Customer Sample:** MFL-AM03-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A4	None Detected									
J5	D7	None Detected									
J5	H9	None Detected									
J6	C8	None Detected									
J6	E10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
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Customer PO:	1207085
Project ID:	N/A

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Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-111024-AB**	**Sample Description:**	**DL264146**
EMSL Sample Number:	042423403-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7138.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0020 **Customer Sample:** MFL-AM07-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	H3	None Detected									
K1	E4	None Detected									
K1	D8	None Detected									
K2	B3	None Detected									
K2	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-111024-AB**		**Sample Description:**	**DL264126**
EMSL Sample Number:	042423403-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0021 **Customer Sample:** MFL-FB01-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	B5	None Detected									
K5	D1	None Detected									
K5	F2	None Detected									
K5	H3	None Detected									
K5	J5	None Detected									
K6	J8	None Detected									
K6	H10	None Detected									
K6	F7	None Detected									
K6	B7	None Detected									
K6	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423403
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042423403-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423403
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423403-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I7	None Detected									
A1	G5	None Detected									
A1	E8	None Detected									
A1	C3	None Detected									
A1	A1	None Detected									
A2	J1	None Detected									
A2	H4	None Detected									
A2	F1	None Detected									
A2	D5	None Detected									
A2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042423403

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042423403

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authortzation.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

RECEIVED EMSL CINNAMINSON, NJ 2024 NOV 13 AM 11:39

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shana Epstein
Sampled By Signature:
No. of Samples in Shipment 21

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-110724-AB	DL264128	7,221.406	11/07/24 1057
MFL-AM02-110724-AB	DL264131	7,227.792	11/07/24 1114
MFL-AM03-110724-AB	DL264127	7,158.963	11/07/24 1252
MFL-AM07-110724-AB	DL264190	7,212.720	11/07/24 1314
MFL-FB01-110724-AB	DL264139	0	11/07/24 1200
MFL-LB01-110724-AB	DL264147	0	11/07/24 1200
MFL-AM05-110824-AB	DL264189	7,162.966	11/08/24 1058
MFL-AM02-110824-AB	DL264129	6,722.462	11/08/24 1116

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:
Relinquished by: Date/Time: 11/11/24 1100
Received by: FX Date/Time: 11/13/24 920
Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

2 BD

OrderID: 042423403

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423403

RECEIVED EMSL CINNAMINSON, NJ 2024 NOV 13 A 11:39

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information.

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03-110824-AB	DL264135	7,214,283	11/08/24 1254
MFL-AM07-110824-AB	DL264199	7,214.741	11/08/24 1322
MFL-FB01-110824-AB	DL264107	0	11/08/24 1200
MFL-AM05-110924-AB	DL264124	7,143.700	11/09/24 1100
MFL-AM02-110924-AB	DL264136	6,888.600	11/09/24 1114
MFL-AM03-110924-AB	DL264137	7,135.572	11/09/24 1256
MFL-AM07-110924-AB	DL264144	7,238.785	11/09/24 1317
MFL-FB01-110924-AB	DL264115	0	11/09/24 1200
MFL-AM05-111024-AB	DL264106	7,179.899	11/10/24 1055
MFL-AM02-111024-AB	DL264117	6,556.553	11/10/24 1111
MFL-AM03-111024-AB	DL264170	7,188.233	11/10/24 1256
MFL-AM07-111024-AB	DL264146	7,138.069	11/10/24 1317
MFL-FB01-111024-AB	DL264126	0	11/10/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/11/24 1100	Received by: FX	Date/Time: 11/13/24 920a
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

21/30

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/19/2024 and Shanna Vasser 11/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/7/2024 – 11/10/2024
Report No: 42423403

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111124-AB** **Sample Description: DL264114**

EMSL Sample Number:	042423713-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0001 **Customer Sample:** MFL-AM05-111124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J5	None Detected									
A5	G6	None Detected									
A5	D2	None Detected									
A6	C9	None Detected									
A6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111124-AB** **Sample Description: DL264105**

EMSL Sample Number:	042423713-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6592.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0002 **Customer Sample:** MFL-AM02-111124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A6	None Detected									
B2	D8	None Detected									
B2	H7	None Detected									
B3	E8	None Detected									
B3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111124-AB** **Sample Description: DL264112**

EMSL Sample Number:	042423713-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0003 **Customer Sample:** MFL-AM03-111124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I2	None Detected									
B5	F3	None Detected									
B5	D2	None Detected									
B6	C8	None Detected									
B6	I6	None Detected									

Abbreviations used:
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Customer PO:	1207085
Project ID:	Maui Fires

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111124-AB** **Sample Description: DL264145**

EMSL Sample Number:	042423713-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423713
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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0004 **Customer Sample:** MFL-AM07-111124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	B9	None Detected									
C2	E8	None Detected									
C2	G6	None Detected									
C3	G3	None Detected									
C3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111124-AB** **Sample Description: DL264132**

EMSL Sample Number:	042423713-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): N/A **Limit of Detection (Structures/cc): N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0005 **Customer Sample:** MFL-FB01-111124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A7	None Detected									
C5	C4	None Detected									
C5	E5	None Detected									
C5	G3	None Detected									
C5	H6	None Detected									
C6	J4	None Detected									
C6	H8	None Detected									
C6	F6	None Detected									
C6	D3	None Detected									
C6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111224-AB** **Sample Description: DL264111**

EMSL Sample Number:	042423713-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0006 **Customer Sample:** MFL-AM05-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I4	None Detected									
D2	F3	None Detected									
D2	C5	None Detected									
D3	B6	None Detected									
D3	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111224-AB** **Sample Description: DL264113**

EMSL Sample Number:	042423713-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6885.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0007 **Customer Sample:** MFL-AM02-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	H4	None Detected									
D5	A2	None Detected									
D6	D7	None Detected									
D6	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111224-AB** **Sample Description: DL264122**

EMSL Sample Number:	042423713-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0008 **Customer Sample:** MFL-AM03-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I7	None Detected									
E2	G5	None Detected									
E2	C5	None Detected									
E3	I6	None Detected									
E3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111224-AB** **Sample Description: DL264157**

EMSL Sample Number:	042423713-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0009 **Customer Sample:** MFL-AM07-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J5	None Detected									
E5	G2	None Detected									
E5	B1	None Detected									
E6	G2	None Detected									
E6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111224-AB** **Sample Description: Dl264121**

EMSL Sample Number:	042423713-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0010 **Customer Sample:** MFL-FB01-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J9	None Detected									
F2	H8	None Detected									
F2	F4	None Detected									
F2	D9	None Detected									
F2	B6	None Detected									
F3	I8	None Detected									
F3	H10	None Detected									
F3	F8	None Detected									
F3	D6	None Detected									
F3	B5	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111324-AB** **Sample Description: DL264116**

EMSL Sample Number:	042423713-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0011 **Customer Sample:** MFL-AM05-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	C3	None Detected									
F5	F7	None Detected									
F5	H9	None Detected									
F6	H3	None Detected									
F6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111324-AB** **Sample Description: DL264123**

EMSL Sample Number:	042423713-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6356.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0012 **Customer Sample:** MFL-AM02-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	I4	None Detected									
G2	F6	None Detected									
G2	C8	None Detected									
G3	I8	None Detected									
G3	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	Maui Fires

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Tetra Tech
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Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111324-AB** **Sample Description: DL264143**

EMSL Sample Number:	042423713-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0013 **Customer Sample:** MFL-AM03-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J9	None Detected									
G5	G2	None Detected									
G5	D3	None Detected									
G6	G2	None Detected									
G6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	Maui Fires

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Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111324-AB** **Sample Description: DL264148**

EMSL Sample Number:	042423713-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0014 **Customer Sample:** MFL-AM07-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J4	None Detected									
H2	F7	None Detected									
H2	B4	None Detected									
H3	D7	None Detected									
H3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111324-AB** **Sample Description: DL264108**

EMSL Sample Number:	042423713-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0015 **Customer Sample:** MFL-FB01-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A6	None Detected									
H5	C8	None Detected									
H5	E9	None Detected									
H5	G5	None Detected									
H5	I8	None Detected									
H6	A6	None Detected									
H6	C3	None Detected									
H6	E7	None Detected									
H6	G8	None Detected									
H6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423713
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Customer PO:	1207085
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Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042423713-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
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EMSL Order ID: 042423713
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423713-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J9	None Detected									
A2	H8	None Detected									
A2	F4	None Detected									
A2	D5	None Detected									
A2	B8	None Detected									
A3	J7	None Detected									
A3	H4	None Detected									
A3	F8	None Detected									
A3	D5	None Detected									
A3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042423713

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042423713

RECEIVED EMSL CINNAMINSON, NJ 24 NOV 18 AM 10:15

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-111124-AB	DL264114	7,162.008	11/11/24 1056
MFL-AM02-111124-AB	DL264105	6,592.683	11/11/24 1113
MFL-AM03-111124-AB	DL264112	7,186.911	11/11/24 1253
MFL-AM07-111124-AB	DL264145	7,156.721	11/11/24 1310
MFL-FB01-111124-AB	DL264132	0	11/11/24 1200
MFL-AM05-111224-AB	DL264111	7,163.233	11/12/24 1057
MFL-AM02-111224-AB	DL264113	6,885.764	11/12/24 1114
MFL-AM03-111224-AB	DL264122	7,242.774	11/12/24 1301

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15/15

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/14/24 1100	Received by: FX	Date/Time: 11/18/24 905a
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042423713

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423713 RECEIVED EMSL CINNAMINSON, NJ

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

24 NOV 18 AM 10:15

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-111224-AB	DL264157	7,268,815	11/12/24 1320
MPL-FB01-111224-AB	DL264121	0	11/12/24 1200
MFL-AM05-111324-AB	DL264116	7,172,991	11/13/24 1056
MFL-AM02-111324-AB	DL264123	6,356,237	11/13/24 1114
MFL-AM03-111324-AB	DL264143	7,201,761	11/13/24 1252
MFL-AM07-111324-AB	DL264148	7,195,249	11/13/24 1312
MFL-FB01-111324-AB	DL264108	0	11/13/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/14/24 1100	Received by: FX	Date/Time: 11/18/24 905
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/25/2024 and Shanna Vasser 11/25/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/11/2024 – 11/13/2024
Report No: 42423713

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

November 27, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 11/18/24 10:27.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-110724-HM	4111838-01	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM02-110724-HM	4111838-02	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM03-110724-HM	4111838-03	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM07-110724-HM	4111838-04	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM05-110824-HM	4111838-05	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM02-110824-HM	4111838-06	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM03-110824-HM	4111838-07	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM07-110824-HM	4111838-08	Air	11/08/24 23:59	11/18/24 10:27
MFL-FB01-110824-HM	4111838-09	Air	11/08/24 00:00	11/18/24 10:27
MFL-LB01-110824-HM	4111838-10	Air	11/08/24 00:00	11/18/24 10:27
MFL-AM05-110924-HM	4111838-11	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM02-110924-HM	4111838-12	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM03-110924-HM	4111838-13	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM07-110924-HM	4111838-14	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM05-111024-HM	4111838-15	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM02-111024-HM	4111838-16	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM03-111024-HM	4111838-17	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM07-111024-HM	4111838-18	Air	11/10/24 23:59	11/18/24 10:27
MFL-FB01-111024-HM	4111838-19	Air	11/10/24 00:00	11/18/24 10:27
MFL-AM05-111124-HM	4111838-20	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM02-111124-HM	4111838-21	Air	11/11/24 23:59	11/18/24 10:27

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-111124-HM	4111838-22	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM07-111124-HM	4111838-23	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM05-111224-HM	4111838-24	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM02-111224-HM	4111838-25	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM03-111224-HM	4111838-26	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM07-111224-HM	4111838-27	Air	11/12/24 23:59	11/18/24 10:27
MFL-FB01-111224-HM	4111838-28	Air	11/12/24 00:00	11/18/24 10:27
MFL-AM05-111324-HM	4111838-29	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM02-111324-HM	4111838-30	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM03-111324-HM	4111838-31	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM07-111324-HM	4111838-32	Air	11/13/24 23:59	11/18/24 10:27

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110724-HM
Matrix: Air
Lab ID: 4111838-01
Sample Volume: 1925.969 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 02:27

Comments: Q8533676 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.127**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.695**		**0.00792**
Barium	**7440-39-3**	**13.7**		**0.904**
Beryllium	**7440-41-7**	**0.0585**		**0.00270**
Cadmium	7440-43-9	0.0311	U	0.0626
Chromium	**7440-47-3**	**11.4**		**1.87**
Cobalt	**7440-48-4**	**2.78**		**0.0368**
Copper	**7440-50-8**	**72.4**		**2.22**
Lead	**7439-92-1**	**1.04**		**0.181**
Manganese	**7439-96-5**	**61.9**		**1.60**
Molybdenum	**7439-98-7**	**3.77**		**0.303**
Nickel	**7440-02-0**	**8.01**		**0.551**
Selenium	**7782-49-2**	**0.282**		**0.00757**
Thallium	**7440-28-0**	**0.00345**	QB-04	**4.98E-4**
Vanadium	**7440-62-2**	**7.87**		**0.0447**
Zinc	7440-66-6	24.8	U	64.9

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110724-HM
Matrix: Air
Lab ID: 4111838-02
Sample Volume: 2091.76 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/19/24 23:28

Comments: Q8533674 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.162**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.682**		**0.00729**
Barium	**7440-39-3**	**11.8**		**0.832**
Beryllium	**7440-41-7**	**0.0417**		**0.00249**
Cadmium	**7440-43-9**	**0.155**		**0.0576**
Chromium	**7440-47-3**	**7.07**		**1.72**
Cobalt	**7440-48-4**	**1.62**		**0.0339**
Copper	**7440-50-8**	**43.6**		**2.05**
Lead	**7439-92-1**	**2.31**		**0.166**
Manganese	**7439-96-5**	**43.0**		**1.47**
Molybdenum	**7439-98-7**	**2.03**		**0.279**
Nickel	**7440-02-0**	**4.97**		**0.507**
Selenium	**7782-49-2**	**0.245**		**0.00697**
Thallium	**7440-28-0**	**0.00272**		**4.58E-4**
Vanadium	**7440-62-2**	**4.92**		**0.0411**
Zinc	7440-66-6	35.0	U	59.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110724-HM
Matrix: Air
Lab ID: 4111838-03
Sample Volume: 1817.953 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 02:47

Comments: Q8533673 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0540**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.200**		**0.00839**
Barium	**7440-39-3**	**4.56**		**0.958**
Beryllium	**7440-41-7**	**0.0499**		**0.00286**
Cadmium	7440-43-9	0.0117	U	0.0663
Chromium	**7440-47-3**	**4.83**		**1.98**
Cobalt	**7440-48-4**	**0.924**		**0.0390**
Copper	**7440-50-8**	**34.3**		**2.35**
Lead	**7439-92-1**	**0.441**		**0.192**
Manganese	**7439-96-5**	**21.0**		**1.69**
Molybdenum	**7439-98-7**	**1.79**		**0.321**
Nickel	**7440-02-0**	**2.62**		**0.584**
Selenium	**7782-49-2**	**0.197**		**0.00802**
Thallium	**7440-28-0**	**0.00210**	QB-04	**5.27E-4**
Vanadium	**7440-62-2**	**2.31**		**0.0473**
Zinc	7440-66-6	11.3	U	68.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110724-HM
Matrix: Air
Lab ID: 4111838-04
Sample Volume: 1886.53 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:05

Comments: Q8533672 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0988**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.658**		**0.00808**
Barium	**7440-39-3**	**5.62**		**0.923**
Beryllium	**7440-41-7**	**0.0303**		**0.00276**
Cadmium	7440-43-9	0.0440	U	0.0639
Chromium	**7440-47-3**	**4.33**		**1.91**
Cobalt	**7440-48-4**	**1.01**		**0.0376**
Copper	**7440-50-8**	**18.1**		**2.27**
Lead	**7439-92-1**	**0.768**		**0.185**
Manganese	**7439-96-5**	**35.0**		**1.63**
Molybdenum	**7439-98-7**	**1.00**		**0.310**
Nickel	**7440-02-0**	**2.36**		**0.562**
Selenium	**7782-49-2**	**0.210**		**0.00773**
Thallium	**7440-28-0**	**0.00240**	QB-04	**5.08E-4**
Vanadium	**7440-62-2**	**2.61**		**0.0456**
Zinc	7440-66-6	17.8	U	66.2

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110824-HM
Matrix: Air
Lab ID: 4111838-05
Sample Volume: 1933.24 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:25

Comments: Q8533671 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.412**		**0.00789**
Barium	**7440-39-3**	**6.67**		**0.901**
Beryllium	**7440-41-7**	**0.0185**		**0.00269**
Cadmium	7440-43-9	0.0127	U	0.0624
Chromium	**7440-47-3**	**3.77**		**1.86**
Cobalt	**7440-48-4**	**0.812**		**0.0367**
Copper	**7440-50-8**	**22.0**		**2.21**
Lead	**7439-92-1**	**1.43**		**0.180**
Manganese	**7439-96-5**	**20.6**		**1.59**
Molybdenum	**7439-98-7**	**1.21**		**0.302**
Nickel	**7440-02-0**	**2.53**		**0.549**
Selenium	**7782-49-2**	**0.147**		**0.00754**
Thallium	**7440-28-0**	**0.00124**	QB-04	**4.96E-4**
Vanadium	**7440-62-2**	**2.34**		**0.0445**
Zinc	7440-66-6	18.4	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110824-HM
Matrix: Air
Lab ID: 4111838-06
Sample Volume: 2144.914 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:40

Comments: Q8526064 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.481**		**0.00711**
Barium	**7440-39-3**	**7.00**		**0.812**
Beryllium	**7440-41-7**	**0.0186**		**0.00243**
Cadmium	7440-43-9	0.0501	U	0.0562
Chromium	**7440-47-3**	**3.53**		**1.68**
Cobalt	**7440-48-4**	**0.706**		**0.0331**
Copper	**7440-50-8**	**40.2**		**1.99**
Lead	**7439-92-1**	**1.32**		**0.162**
Manganese	**7439-96-5**	**19.3**		**1.43**
Molybdenum	**7439-98-7**	**2.18**		**0.272**
Nickel	**7440-02-0**	**2.16**		**0.495**
Selenium	**7782-49-2**	**0.146**		**0.00680**
Thallium	**7440-28-0**	**0.00118**	QB-04	**4.47E-4**
Vanadium	**7440-62-2**	**2.10**		**0.0401**
Zinc	7440-66-6	24.0	U	58.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110824-HM
Matrix: Air
Lab ID: 4111838-07
Sample Volume: 2010.367 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:56

Comments: Q8526062 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0561**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.114**		**0.00758**
Barium	**7440-39-3**	**2.74**		**0.866**
Beryllium	**7440-41-7**	**0.0184**		**0.00259**
Cadmium	7440-43-9	0.0134	U	0.0600
Chromium	**7440-47-3**	**2.12**		**1.79**
Cobalt	**7440-48-4**	**0.359**		**0.0353**
Copper	**7440-50-8**	**31.9**		**2.13**
Lead	**7439-92-1**	**0.345**		**0.173**
Manganese	**7439-96-5**	**8.93**		**1.53**
Molybdenum	**7439-98-7**	**1.71**		**0.291**
Nickel	**7440-02-0**	**1.20**		**0.528**
Selenium	**7782-49-2**	**0.112**		**0.00725**
Thallium	**7440-28-0**	**6.98E-4**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**0.826**		**0.0428**
Zinc	7440-66-6	10.8	U	62.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110824-HM
Matrix: Air
Lab ID: 4111838-08
Sample Volume: 1872.546 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:11

Comments: Q8526061 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0876**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.270**		**0.00814**
Barium	**7440-39-3**	**3.39**		**0.930**
Beryllium	**7440-41-7**	**0.0111**		**0.00278**
Cadmium	7440-43-9	0.00857	U	0.0644
Chromium	**7440-47-3**	**2.13**		**1.92**
Cobalt	**7440-48-4**	**0.369**		**0.0379**
Copper	**7440-50-8**	**28.1**		**2.29**
Lead	**7439-92-1**	**0.609**		**0.186**
Manganese	**7439-96-5**	**12.1**		**1.64**
Molybdenum	**7439-98-7**	**1.25**		**0.312**
Nickel	**7440-02-0**	**1.17**		**0.567**
Selenium	**7782-49-2**	**0.133**		**0.00779**
Thallium	**7440-28-0**	**7.92E-4**	QB-04	**5.12E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0460**
Zinc	7440-66-6	15.5	U	66.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110824-HM
Matrix: Air
Lab ID: 4111838-09
Sample Volume: 1933.24 m³
Filter ID:
Sampled: 11/08/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:27

Comments: Q8526053 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0213	SL, U	0.0325
Arsenic	7440-38-2	0.00462	U	0.00789
Barium	**7440-39-3**	**1.02**	FB-01	**0.901**
Beryllium	7440-41-7	3.60E-4	U	0.00269
Cadmium	7440-43-9	9.14E-4	U	0.0624
Chromium	7440-47-3	0.847	U	1.86
Cobalt	7440-48-4	0.0138	U	0.0367
Copper	7440-50-8	0.253	U	2.21
Lead	7439-92-1	0.0273	U	0.180
Manganese	7439-96-5	0.218	U	1.59
Molybdenum	7439-98-7	0.132	U	0.302
Nickel	7440-02-0	0.454	U	0.549
Selenium	7782-49-2	0.00546	U	0.00754
Thallium	7440-28-0	9.43E-5	QB-04, U	4.96E-4
Vanadium	7440-62-2	0.0273	U	0.0445
Zinc	7440-66-6	3.79	U	64.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-110824-HM **Lab ID:** 4111838-10 **Sampled:** 11/08/24 00:00
Matrix: Air **Sample Volume:** 1933.24 m³ **Received:** 11/18/24 10:27
Filter ID: **Analysis Date:** 11/20/24 04:40

Comments: Q8526058 - Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0198	SL, U	0.0325
Arsenic	7440-38-2	0.00460	U	0.00789
Barium	**7440-39-3**	**1.03**		**0.901**
Beryllium	7440-41-7	3.07E-4	U	0.00269
Cadmium	7440-43-9	0.00108	U	0.0624
Chromium	7440-47-3	0.791	U	1.86
Cobalt	7440-48-4	0.0143	U	0.0367
Copper	7440-50-8	0.838	U	2.21
Lead	7439-92-1	0.0357	U	0.180
Manganese	7439-96-5	0.240	U	1.59
Molybdenum	7439-98-7	0.147	U	0.302
Nickel	7440-02-0	0.360	U	0.549
Selenium	7782-49-2	0.00617	U	0.00754
Thallium	7440-28-0	1.01E-4	QB-04, U	4.96E-4
Vanadium	7440-62-2	0.0288	U	0.0445
Zinc	7440-66-6	8.59	U	64.6

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110924-HM
Matrix: Air
Lab ID: 4111838-11
Sample Volume: 2000.355 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:54

Comments: Q8526060 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.316**		**0.00762**
Barium	**7440-39-3**	**4.63**		**0.870**
Beryllium	**7440-41-7**	**0.0103**		**0.00260**
Cadmium	7440-43-9	0.0104	U	0.0603
Chromium	**7440-47-3**	**2.27**		**1.80**
Cobalt	**7440-48-4**	**0.442**		**0.0355**
Copper	**7440-50-8**	**20.0**		**2.14**
Lead	**7439-92-1**	**0.810**		**0.174**
Manganese	**7439-96-5**	**11.8**		**1.54**
Molybdenum	**7439-98-7**	**1.15**		**0.292**
Nickel	**7440-02-0**	**1.43**		**0.530**
Selenium	**7782-49-2**	**0.183**		**0.00729**
Thallium	**7440-28-0**	**0.00108**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0430**
Zinc	7440-66-6	13.7	U	62.5

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110924-HM
Matrix: Air
Lab ID: 4111838-12
Sample Volume: 2131.475 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 06:29

Comments: Q8526056 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.201**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.568**		**0.00715**
Barium	**7440-39-3**	**6.22**		**0.817**
Beryllium	**7440-41-7**	**0.0150**		**0.00244**
Cadmium	7440-43-9	0.0497	U	0.0566
Chromium	**7440-47-3**	**2.86**		**1.69**
Cobalt	**7440-48-4**	**0.513**		**0.0333**
Copper	**7440-50-8**	**38.6**		**2.01**
Lead	**7439-92-1**	**1.03**		**0.163**
Manganese	**7439-96-5**	**15.3**		**1.44**
Molybdenum	**7439-98-7**	**1.95**		**0.274**
Nickel	**7440-02-0**	**1.82**		**0.498**
Selenium	**7782-49-2**	**0.196**		**0.00684**
Thallium	**7440-28-0**	**0.00130**	QB-04	**4.50E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0404**
Zinc	7440-66-6	19.4	U	58.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110924-HM
Matrix: Air
Lab ID: 4111838-13
Sample Volume: 1883.054 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 06:48

Comments: Q8526052 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0389**	SL	**0.0334**
Barium	**7440-39-3**	**15.5**		**0.925**
Beryllium	**7440-41-7**	**0.315**		**0.00276**
Chromium	**7440-47-3**	**16.3**		**1.91**
Cobalt	**7440-48-4**	**4.11**		**0.0377**
Copper	**7440-50-8**	**41.2**		**2.27**
Lead	**7439-92-1**	**0.875**		**0.185**
Manganese	**7439-96-5**	**95.6**		**1.63**
Nickel	**7440-02-0**	**8.32**		**0.563**
Thallium	**7440-28-0**	**0.00541**	QB-04	**5.09E-4**
Zinc	7440-66-6	16.7	U	66.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110924-HM
Matrix: Air
Lab ID: 4111838-13RE1
Sample Volume: 1883.054 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 15:28

Comments: Q8526052 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.707**	D	**0.0405**
Cadmium	7440-43-9	0.0283	D, U	0.320
Molybdenum	**7439-98-7**	**1.99**	D	**1.55**
Selenium	**7782-49-2**	**0.663**	D	**0.0387**
Vanadium	**7440-62-2**	**11.4**	D	**0.229**

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110924-HM
Matrix: Air
Lab ID: 4111838-14
Sample Volume: 1829.853 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:08

Comments: Q8526051 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.246**		**0.00833**
Barium	**7440-39-3**	**2.89**		**0.951**
Beryllium	**7440-41-7**	**0.00818**		**0.00285**
Cadmium	7440-43-9	0.00813	U	0.0659
Chromium	**7440-47-3**	**2.30**		**1.97**
Cobalt	**7440-48-4**	**0.315**		**0.0388**
Copper	**7440-50-8**	**22.0**		**2.34**
Lead	**7439-92-1**	**0.285**		**0.190**
Manganese	**7439-96-5**	**9.64**		**1.68**
Molybdenum	**7439-98-7**	**1.28**		**0.319**
Nickel	**7440-02-0**	**1.27**		**0.580**
Selenium	**7782-49-2**	**0.166**		**0.00797**
Thallium	**7440-28-0**	**9.68E-4**	QB-04	**5.24E-4**
Vanadium	**7440-62-2**	**0.854**		**0.0470**
Zinc	7440-66-6	9.23	U	68.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111024-HM
Matrix: Air
Lab ID: 4111838-15
Sample Volume: 1991.16 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/19/24 19:18

Comments: Q8526049 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0978**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.222**		**0.00766**
Barium	**7440-39-3**	**3.55**		**0.874**
Beryllium	**7440-41-7**	**0.00833**		**0.00261**
Cadmium	7440-43-9	0.00956	U	0.0605
Chromium	7440-47-3	1.78	U	1.81
Cobalt	**7440-48-4**	**0.259**		**0.0356**
Copper	**7440-50-8**	**22.1**		**2.15**
Lead	**7439-92-1**	**0.541**		**0.175**
Manganese	**7439-96-5**	**8.59**		**1.54**
Molybdenum	**7439-98-7**	**1.37**		**0.293**
Nickel	**7440-02-0**	**0.998**		**0.533**
Selenium	**7782-49-2**	**0.177**		**0.00732**
Thallium	**7440-28-0**	**9.32E-4**		**4.81E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0432**
Zinc	7440-66-6	10.8	U	62.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111024-HM
Matrix: Air
Lab ID: 4111838-16
Sample Volume: 2173.106 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:25

Comments: Q8526048 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.145**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.503**		**0.00702**
Barium	**7440-39-3**	**5.23**		**0.801**
Beryllium	**7440-41-7**	**0.00996**		**0.00240**
Cadmium	7440-43-9	0.0137	U	0.0555
Chromium	**7440-47-3**	**2.60**		**1.65**
Cobalt	**7440-48-4**	**0.354**		**0.0326**
Copper	**7440-50-8**	**47.3**		**1.97**
Lead	**7439-92-1**	**0.933**		**0.160**
Manganese	**7439-96-5**	**10.4**		**1.42**
Molybdenum	**7439-98-7**	**2.20**		**0.269**
Nickel	**7440-02-0**	**1.52**		**0.488**
Selenium	**7782-49-2**	**0.189**		**0.00671**
Thallium	**7440-28-0**	**8.17E-4**	QB-04	**4.41E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0396**
Zinc	7440-66-6	17.6	U	57.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111024-HM
Matrix: Air
Lab ID: 4111838-17
Sample Volume: 1903.196 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:41

Comments: Q8526046 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0418**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.0999**		**0.00801**
Barium	**7440-39-3**	**2.12**		**0.915**
Beryllium	**7440-41-7**	**0.00886**		**0.00274**
Cadmium	7440-43-9	0.00441	U	0.0633
Chromium	7440-47-3	1.40	U	1.89
Cobalt	**7440-48-4**	**0.180**		**0.0373**
Copper	**7440-50-8**	**40.1**		**2.25**
Lead	**7439-92-1**	**0.227**		**0.183**
Manganese	**7439-96-5**	**4.67**		**1.62**
Molybdenum	**7439-98-7**	**2.22**		**0.307**
Nickel	**7440-02-0**	**0.837**		**0.557**
Selenium	**7782-49-2**	**0.162**		**0.00766**
Thallium	**7440-28-0**	**6.48E-4**	QB-04	**5.04E-4**
Vanadium	**7440-62-2**	**0.532**		**0.0452**
Zinc	7440-66-6	7.54	U	65.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111024-HM
Matrix: Air
Lab ID: 4111838-18
Sample Volume: 1884.952 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:55

Comments: Q8526044 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.148**		**0.00809**
Barium	**7440-39-3**	**2.48**		**0.924**
Beryllium	**7440-41-7**	**0.00539**		**0.00276**
Cadmium	7440-43-9	0.00727	U	0.0640
Chromium	**7440-47-3**	**2.28**		**1.91**
Cobalt	**7440-48-4**	**0.219**		**0.0376**
Copper	**7440-50-8**	**19.5**		**2.27**
Lead	**7439-92-1**	**0.198**		**0.185**
Manganese	**7439-96-5**	**6.35**		**1.63**
Molybdenum	**7439-98-7**	**1.16**		**0.310**
Nickel	**7440-02-0**	**1.40**		**0.563**
Selenium	**7782-49-2**	**0.158**		**0.00773**
Thallium	**7440-28-0**	**5.97E-4**	QB-04	**5.08E-4**
Vanadium	**7440-62-2**	**0.687**		**0.0457**
Zinc	7440-66-6	6.57	U	66.3

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111024-HM
Matrix: Air
Lab ID: 4111838-19
Sample Volume: 1991.16 m³
Filter ID:
Sampled: 11/10/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:10

Comments: Q8526039 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0190	SL, U	0.0315
Arsenic	7440-38-2	0.00384	U	0.00766
Barium	**7440-39-3**	**1.05**	FB-01	**0.874**
Beryllium	7440-41-7	3.67E-4	U	0.00261
Cadmium	7440-43-9	0.00100	U	0.0605
Chromium	7440-47-3	1.42	U	1.81
Cobalt	7440-48-4	0.0131	U	0.0356
Copper	7440-50-8	0.625	U	2.15
Lead	7439-92-1	0.0458	U	0.175
Manganese	7439-96-5	0.167	U	1.54
Molybdenum	7439-98-7	0.236	U	0.293
Nickel	7440-02-0	0.342	U	0.533
Selenium	7782-49-2	0.00366	U	0.00732
Thallium	7440-28-0	1.22E-4	QB-04, U	4.81E-4
Vanadium	7440-62-2	0.0254	U	0.0432
Zinc	7440-66-6	8.64	U	62.8

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111124-HM
Matrix: Air
Lab ID: 4111838-20
Sample Volume: 2000.355 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:24

Comments: Q8526042 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.264**		**0.00762**
Barium	**7440-39-3**	**4.95**		**0.870**
Beryllium	**7440-41-7**	**0.00785**		**0.00260**
Cadmium	7440-43-9	0.0107	U	0.0603
Chromium	**7440-47-3**	**2.09**		**1.80**
Cobalt	**7440-48-4**	**0.307**		**0.0355**
Copper	**7440-50-8**	**26.8**		**2.14**
Lead	**7439-92-1**	**0.566**		**0.174**
Manganese	**7439-96-5**	**9.55**		**1.54**
Molybdenum	**7439-98-7**	**1.70**		**0.292**
Nickel	**7440-02-0**	**1.18**		**0.530**
Selenium	**7782-49-2**	**0.185**		**0.00729**
Thallium	**7440-28-0**	**0.00106**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0430**
Zinc	7440-66-6	14.9	U	62.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111124-HM
Matrix: Air
Lab ID: 4111838-21
Sample Volume: 2164.471 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:39

Comments: Q8526041 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.196**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.584**		**0.00704**
Barium	**7440-39-3**	**7.64**		**0.804**
Beryllium	**7440-41-7**	**0.0143**		**0.00241**
Cadmium	7440-43-9	0.0139	U	0.0557
Chromium	**7440-47-3**	**2.92**		**1.66**
Cobalt	**7440-48-4**	**0.578**		**0.0328**
Copper	**7440-50-8**	**43.7**		**1.98**
Lead	**7439-92-1**	**1.29**		**0.161**
Manganese	**7439-96-5**	**17.6**		**1.42**
Molybdenum	**7439-98-7**	**2.25**		**0.270**
Nickel	**7440-02-0**	**1.86**		**0.490**
Selenium	**7782-49-2**	**0.215**		**0.00674**
Thallium	**7440-28-0**	**0.00117**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**2.04**		**0.0398**
Zinc	7440-66-6	21.0	U	57.7

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111124-HM
Matrix: Air
Lab ID: 4111838-22
Sample Volume: 1858.999 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 10:15

Comments: Q8526040 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0500**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.0963**		**0.00820**
Barium	**7440-39-3**	**2.78**		**0.936**
Beryllium	**7440-41-7**	**0.00786**		**0.00280**
Cadmium	7440-43-9	0.00519	U	0.0649
Chromium	7440-47-3	1.57	U	1.93
Cobalt	**7440-48-4**	**0.220**		**0.0382**
Copper	**7440-50-8**	**39.2**		**2.30**
Lead	**7439-92-1**	**0.244**		**0.187**
Manganese	**7439-96-5**	**5.91**		**1.65**
Molybdenum	**7439-98-7**	**2.37**		**0.314**
Nickel	**7440-02-0**	**0.980**		**0.571**
Selenium	**7782-49-2**	**0.162**		**0.00784**
Thallium	**7440-28-0**	**0.00102**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**0.803**		**0.0463**
Zinc	7440-66-6	6.89	LJ, QX, U	67.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111124-HM
Matrix: Air
Lab ID: 4111838-23
Sample Volume: 1853.852 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 10:49

Comments: Q8526037 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0836**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.0970**		**0.00822**
Barium	**7440-39-3**	**4.02**		**0.939**
Beryllium	**7440-41-7**	**0.00504**		**0.00281**
Cadmium	7440-43-9	0.00450	U	0.0650
Chromium	7440-47-3	1.32	U	1.94
Cobalt	**7440-48-4**	**0.150**		**0.0383**
Copper	**7440-50-8**	**19.1**		**2.31**
Lead	**7439-92-1**	**0.196**		**0.188**
Manganese	**7439-96-5**	**5.23**		**1.66**
Molybdenum	**7439-98-7**	**1.30**		**0.315**
Nickel	**7440-02-0**	**0.782**		**0.572**
Selenium	**7782-49-2**	**0.156**		**0.00786**
Thallium	**7440-28-0**	**7.61E-4**	QB-04	**5.17E-4**
Vanadium	**7440-62-2**	**0.724**		**0.0464**
Zinc	7440-66-6	7.99	LJ, QX, U	67.4

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111224-HM
Matrix: Air
Lab ID: 4111838-24
Sample Volume: 1953.977 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:06

Comments: Q8526036 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.282**		**0.00780**
Barium	**7440-39-3**	**6.19**		**0.891**
Beryllium	**7440-41-7**	**0.0128**		**0.00266**
Cadmium	7440-43-9	0.0127	U	0.0617
Chromium	**7440-47-3**	**2.58**		**1.84**
Cobalt	**7440-48-4**	**0.461**		**0.0363**
Copper	**7440-50-8**	**33.1**		**2.19**
Lead	**7439-92-1**	**0.731**		**0.178**
Manganese	**7439-96-5**	**13.3**		**1.57**
Molybdenum	**7439-98-7**	**1.90**		**0.299**
Nickel	**7440-02-0**	**1.80**		**0.543**
Selenium	**7782-49-2**	**0.248**		**0.00746**
Thallium	**7440-28-0**	**0.00136**	QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0440**
Zinc	7440-66-6	18.7	LJ, QX, U	63.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111224-HM
Matrix: Air
Lab ID: 4111838-25
Sample Volume: 2142.226 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:22

Comments: Q8526034 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.249**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.789**		**0.00712**
Barium	**7440-39-3**	**7.79**		**0.813**
Beryllium	**7440-41-7**	**0.0191**		**0.00243**
Cadmium	7440-43-9	0.0317	U	0.0563
Chromium	**7440-47-3**	**3.05**		**1.68**
Cobalt	**7440-48-4**	**0.606**		**0.0331**
Copper	**7440-50-8**	**48.4**		**2.00**
Lead	**7439-92-1**	**1.42**		**0.163**
Manganese	**7439-96-5**	**18.3**		**1.44**
Molybdenum	**7439-98-7**	**2.24**		**0.273**
Nickel	**7440-02-0**	**2.07**		**0.495**
Selenium	**7782-49-2**	**0.269**		**0.00681**
Thallium	**7440-28-0**	**0.00145**	QB-04	**4.47E-4**
Vanadium	**7440-62-2**	**2.16**		**0.0402**
Zinc	7440-66-6	22.4	LJ, QX, U	58.3

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111224-HM
Matrix: Air
Lab ID: 4111838-26
Sample Volume: 1915.937 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:39

Comments: Q8526032 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0567**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.170**		**0.00796**
Barium	**7440-39-3**	**3.62**		**0.909**
Beryllium	**7440-41-7**	**0.0177**		**0.00272**
Cadmium	7440-43-9	0.00720	U	0.0629
Chromium	**7440-47-3**	**2.45**		**1.88**
Cobalt	**7440-48-4**	**0.462**		**0.0370**
Copper	**7440-50-8**	**49.1**		**2.23**
Lead	**7439-92-1**	**0.342**		**0.182**
Manganese	**7439-96-5**	**12.0**		**1.60**
Molybdenum	**7439-98-7**	**2.85**		**0.305**
Nickel	**7440-02-0**	**1.58**		**0.554**
Selenium	**7782-49-2**	**0.241**		**0.00761**
Thallium	**7440-28-0**	**0.00122**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0449**
Zinc	7440-66-6	9.81	LJ, QX, U	65.2

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111224-HM
Matrix: Air
Lab ID: 4111838-27
Sample Volume: 1832.918 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:53

Comments: Q8526031 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.655**		**0.00832**
Barium	**7440-39-3**	**6.38**		**0.950**
Beryllium	**7440-41-7**	**0.0278**		**0.00284**
Cadmium	7440-43-9	0.0133	U	0.0658
Chromium	**7440-47-3**	**4.75**		**1.96**
Cobalt	**7440-48-4**	**0.970**		**0.0387**
Copper	**7440-50-8**	**21.2**		**2.33**
Lead	**7439-92-1**	**0.597**		**0.190**
Manganese	**7439-96-5**	**32.5**		**1.68**
Molybdenum	**7439-98-7**	**1.26**		**0.319**
Nickel	**7440-02-0**	**2.54**		**0.579**
Selenium	**7782-49-2**	**0.294**		**0.00795**
Thallium	**7440-28-0**	**0.00193**	QB-04	**5.23E-4**
Vanadium	**7440-62-2**	**2.82**		**0.0470**
Zinc	7440-66-6	16.7	LJ, QX, U	68.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111224-HM
Matrix: Air
Lab ID: 4111838-28
Sample Volume: 1953.977 m³
Filter ID:
Sampled: 11/12/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:09

Comments: Q8526024 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0192	SL, U	0.0321
Arsenic	7440-38-2	0.00353	U	0.00780
Barium	**7440-39-3**	**1.06**	FB-01	**0.891**
Beryllium	7440-41-7	2.03E-4	U	0.00266
Cadmium	7440-43-9	5.35E-4	U	0.0617
Chromium	7440-47-3	0.773	U	1.84
Cobalt	7440-48-4	0.00905	U	0.0363
Copper	7440-50-8	0.435	U	2.19
Lead	7439-92-1	0.0336	U	0.178
Manganese	7439-96-5	0.160	U	1.57
Molybdenum	7439-98-7	0.155	U	0.299
Nickel	7440-02-0	0.340	U	0.543
Selenium	7782-49-2	0.00220	U	0.00746
Thallium	7440-28-0	7.65E-5	QB-04, U	4.90E-4
Vanadium	7440-62-2	0.0162	U	0.0440
Zinc	7440-66-6	2.92	LJ, QX, U	63.9

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REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111324-HM
Matrix: Air
Lab ID: 4111838-29
Sample Volume: 1975.504 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:22

Comments: Q8526030 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.268**		**0.00772**
Barium	**7440-39-3**	**4.90**		**0.881**
Beryllium	**7440-41-7**	**0.0110**		**0.00264**
Cadmium	7440-43-9	0.0118	U	0.0610
Chromium	**7440-47-3**	**2.69**		**1.82**
Cobalt	**7440-48-4**	**0.424**		**0.0359**
Copper	**7440-50-8**	**27.9**		**2.17**
Lead	**7439-92-1**	**0.844**		**0.176**
Manganese	**7439-96-5**	**12.0**		**1.56**
Molybdenum	**7439-98-7**	**1.61**		**0.296**
Nickel	**7440-02-0**	**1.70**		**0.537**
Selenium	**7782-49-2**	**0.172**		**0.00738**
Thallium	**7440-28-0**	**9.44E-4**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0436**
Zinc	7440-66-6	14.2	LJ, QX, U	63.3

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SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111324-HM
Matrix: Air
Lab ID: 4111838-30
Sample Volume: 2141.33 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:38

Comments: Q8526027 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	1.05	SL	0.0293
Arsenic	7440-38-2	6.76		0.00712
Barium	7440-39-3	14.6		0.813
Beryllium	7440-41-7	0.0270		0.00243
Cadmium	7440-43-9	0.0584		0.0563
Chromium	7440-47-3	6.08		1.68
Cobalt	7440-48-4	1.13		0.0331
Copper	7440-50-8	70.0		2.00
Lead	7439-92-1	17.9		0.163
Manganese	7439-96-5	29.4		1.44
Molybdenum	7439-98-7	2.16		0.273
Nickel	7440-02-0	3.20		0.495
Selenium	7782-49-2	0.217		0.00681
Thallium	7440-28-0	0.00168	QB-04	4.48E-4
Vanadium	7440-62-2	2.70		0.0402
Zinc	7440-66-6	77.0	LJ, QX	58.4

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REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111324-HM
Matrix: Air
Lab ID: 4111838-31
Sample Volume: 1911.245 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 14:17

Comments: Q8526025 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0618**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.139**		**0.00798**
Barium	**7440-39-3**	**3.72**	LJ, QX	**0.911**
Beryllium	**7440-41-7**	**0.0170**		**0.00272**
Cadmium	7440-43-9	0.00837	U	0.0631
Chromium	**7440-47-3**	**2.44**		**1.88**
Cobalt	**7440-48-4**	**0.425**		**0.0371**
Copper	**7440-50-8**	**45.8**		**2.24**
Lead	**7439-92-1**	**0.402**		**0.182**
Manganese	**7439-96-5**	**10.6**		**1.61**
Molybdenum	**7439-98-7**	**2.76**		**0.306**
Nickel	**7440-02-0**	**1.55**		**0.555**
Selenium	**7782-49-2**	**0.165**		**0.00763**
Thallium	**7440-28-0**	**9.03E-4**	QB-04	**5.01E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0450**
Zinc	7440-66-6	8.82	LJ, QX, U	65.4

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REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111324-HM
Matrix: Air
Lab ID: 4111838-32
Sample Volume: 1918.566 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 14:35

Comments: Q8526023 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.661**		**0.00795**
Barium	**7440-39-3**	**5.69**	LJ, QX	**0.907**
Beryllium	**7440-41-7**	**0.0252**		**0.00271**
Cadmium	7440-43-9	0.0176	U	0.0628
Chromium	**7440-47-3**	**3.97**		**1.87**
Cobalt	**7440-48-4**	**0.868**		**0.0370**
Copper	**7440-50-8**	**17.4**		**2.23**
Lead	**7439-92-1**	**0.439**		**0.181**
Manganese	**7439-96-5**	**31.3**		**1.60**
Molybdenum	**7439-98-7**	**1.14**		**0.304**
Nickel	**7440-02-0**	**2.13**		**0.553**
Selenium	**7782-49-2**	**0.217**		**0.00760**
Thallium	**7440-28-0**	**0.00165**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0449**
Zinc	7440-66-6	13.6	LJ, QX, U	65.1

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Blank (2411050-CCB1)				Prepared & Analyzed: 11/19/24						
Antimony	0.919		ng/l							
Arsenic	2.02		ng/l							
Barium	-0.170		ng/l							U
Beryllium	-0.303		ng/l							U
Cadmium	0.0313		ng/l							
Chromium	1.15		ng/l							
Cobalt	0.0343		ng/l							
Copper	-14.8		ng/l							U
Lead	15.5		ng/l							
Manganese	2.32		ng/l							
Molybdenum	25.3		ng/l							
Nickel	0.837		ng/l							
Selenium	18.0		ng/l							
Thallium	1.35		ng/l							
Vanadium	-23.6		ng/l							U
Zinc	-19.7		ng/l							U
Calibration Blank (2411050-CCB2)				Prepared & Analyzed: 11/19/24						
Antimony	0.498		ng/l							
Arsenic	4.49		ng/l							
Barium	0.374		ng/l							
Beryllium	-0.607		ng/l							U
Cadmium	0.0392		ng/l							
Chromium	0.528		ng/l							
Cobalt	0.0843		ng/l							
Copper	-20.6		ng/l							U
Lead	5.60		ng/l							
Manganese	2.04		ng/l							
Molybdenum	5.30		ng/l							
Nickel	-1.31		ng/l							U
Selenium	8.62		ng/l							
Thallium	1.02		ng/l							
Vanadium	-20.3		ng/l							U
Zinc	-48.7		ng/l							U
Calibration Blank (2411050-CCB3)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.422		ng/l							
Arsenic	2.53		ng/l							
Barium	-0.250		ng/l							U
Beryllium	-0.916		ng/l							U

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REPORTED: 11/27/24 15:15
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Blank (2411050-CCB3) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Cadmium	-0.0410		ng/l							U
Chromium	0.0266		ng/l							
Cobalt	0.0143		ng/l							
Copper	-28.9		ng/l							U
Lead	4.12		ng/l							
Manganese	0.946		ng/l							
Molybdenum	5.66		ng/l							
Nickel	-0.634		ng/l							U
Selenium	9.77		ng/l							
Thallium	1.31		ng/l							
Vanadium	-25.1		ng/l							U
Zinc	-50.1		ng/l							U
Calibration Blank (2411050-CCB4)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.686		ng/l							
Arsenic	2.73		ng/l							
Barium	-0.558		ng/l							U
Beryllium	-1.00		ng/l							U
Cadmium	0.0120		ng/l							
Chromium	1.01		ng/l							
Cobalt	0.150		ng/l							
Copper	-26.3		ng/l							U
Lead	3.84		ng/l							
Manganese	1.15		ng/l							
Molybdenum	7.39		ng/l							
Nickel	-1.82		ng/l							U
Selenium	9.11		ng/l							
Thallium	1.47		ng/l							QB-04
Vanadium	-34.2		ng/l							U
Zinc	-50.2		ng/l							U
Calibration Blank (2411050-CCB5)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.445		ng/l							
Arsenic	-0.883		ng/l							U
Barium	-0.377		ng/l							U
Beryllium	-1.43		ng/l							U
Cadmium	0.0124		ng/l							
Chromium	0.0178		ng/l							
Cobalt	0.00143		ng/l							
Copper	-22.3		ng/l							U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Blank (2411050-CCB5) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Lead	3.47		ng/l							
Manganese	1.19		ng/l							
Molybdenum	7.52		ng/l							
Nickel	-1.19		ng/l							U
Selenium	9.16		ng/l							
Thallium	1.67		ng/l							QB-04
Vanadium	-38.8		ng/l							U
Zinc	-40.4		ng/l							U
Calibration Blank (2411050-CCB6)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.756		ng/l							
Arsenic	-0.824		ng/l							U
Barium	0.422		ng/l							
Beryllium	-1.31		ng/l							U
Cadmium	-0.0262		ng/l							U
Chromium	-1.18		ng/l							U
Cobalt	0.0164		ng/l							
Copper	-17.3		ng/l							U
Lead	3.65		ng/l							
Manganese	2.07		ng/l							
Molybdenum	9.93		ng/l							
Nickel	0.747		ng/l							
Selenium	11.3		ng/l							
Thallium	1.69		ng/l							QB-04
Vanadium	-40.1		ng/l							U
Zinc	-41.9		ng/l							U
Calibration Blank (2411050-CCB7)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	2.08		ng/l							
Arsenic	0.974		ng/l							
Barium	1.46		ng/l							
Beryllium	-0.797		ng/l							U
Cadmium	0.207		ng/l							
Chromium	2.23		ng/l							
Cobalt	0.395		ng/l							
Copper	7.48		ng/l							
Lead	12.8		ng/l							
Manganese	5.18		ng/l							
Molybdenum	28.8		ng/l							
Nickel	0.854		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Blank (2411050-CCB7) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Selenium	0.791		ng/l							
Thallium	4.13		ng/l							QB-04
Vanadium	-47.0		ng/l							U
Zinc	-29.4		ng/l							U
Calibration Check (2411050-CCV1)				Prepared & Analyzed: 11/19/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV2)				Prepared & Analyzed: 11/19/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	534000		ng/l	500000		107	90-110			

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REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Check (2411050-CCV3)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	539000		ng/l	500000		108	90-110			
Calibration Check (2411050-CCV4)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	531000		ng/l	500000		106	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	545000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV5)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Check (2411050-CCV5) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV6)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	218000		ng/l	200000		109	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52900		ng/l	50000		106	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	536000		ng/l	500000		107	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	558000		ng/l	500000		112	90-110			LJ, QX
Calibration Check (2411050-CCV7)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	222000		ng/l	200000		111	90-110			LJ, QX
Beryllium	5220		ng/l	5000.0		104	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Calibration Check (2411050-CCV7) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	530000		ng/l	500000		106	90-110			
Molybdenum	54200		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	556000		ng/l	500000		111	90-110			LJ, QX
High Cal Check (2411050-HCV1)				Prepared & Analyzed: 11/19/24						
Antimony	40800		ng/l	40000		102	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	406000		ng/l	400000		101	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	40400		ng/l	40000		101	95-105			
Chromium	478000		ng/l	480000		99.5	95-105			
Cobalt	99600		ng/l	100000		99.6	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.3	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	239000		ng/l	240000		99.7	95-105			
Selenium	40300		ng/l	40000		101	95-105			
Thallium	999		ng/l	1000.0		99.9	95-105			
Vanadium	40200		ng/l	40000		101	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2411050-ICB1)				Prepared & Analyzed: 11/19/24						
Antimony	1.23		ng/l							
Arsenic	0.0195		ng/l							
Barium	-0.405		ng/l							U
Beryllium	-0.253		ng/l							U
Cadmium	-0.0277		ng/l							U
Chromium	0.695		ng/l							
Cobalt	0.0172		ng/l							
Copper	-23.5		ng/l							U
Lead	12.6		ng/l							
Manganese	3.84		ng/l							
Molybdenum	11.0		ng/l							
Nickel	-3.47		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Initial Cal Blank (2411050-ICB1) Continu				Prepared & Analyzed: 11/19/24						
Selenium	9.09		ng/l							
Thallium	1.15		ng/l							
Vanadium	-22.1		ng/l							U
Zinc	-28.2		ng/l							U
Initial Cal Check (2411050-ICV1)				Prepared & Analyzed: 11/19/24						
Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19000		ng/l	20000		94.9	90-110			
Barium	191000		ng/l	200000		95.5	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	235000		ng/l	240000		97.7	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	48600		ng/l	50000		97.3	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	545000		ng/l	500000		109	90-110			
Interference Check A (2411050-IFA1)				Prepared & Analyzed: 11/19/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	322000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411050 - B4K1911										
Interference Check B (2411050-IFB1)				Prepared & Analyzed: 11/19/24						
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4820		ng/l	5000.0		96.4	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	234000		ng/l	240000		97.5	80-120			
Cobalt	49900		ng/l	50000		99.8	80-120			
Copper	1.94E6		ng/l	2.0000E6		97.0	80-120			
Lead	209000		ng/l	200000		104	80-120			
Manganese	525000		ng/l	500000		105	80-120			
Molybdenum	377000		ng/l	350000		108	80-120			
Nickel	117000		ng/l	120000		97.5	80-120			
Selenium	18900		ng/l	20000		94.6	80-120			
Thallium	518		ng/l	500.00		104	80-120			
Vanadium	19800		ng/l	20000		99.2	80-120			
Zinc	493000		ng/l	500000		98.6	80-120			
Batch B4K1911 - ICP-MS Extraction										
Blank (B4K1911-BLK1)				Prepared & Analyzed: 11/19/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K1911-BS1)				Prepared & Analyzed: 11/19/24						
Antimony	0.702	0.0386	ng/m³ Air	1.3829		50.8	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.0	1.07	ng/m³ Air	27.658		101	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
LCS (B4K1911-BS1) Continued					Prepared & Analyzed: 11/19/24					
Beryllium	1.40	0.00320	ng/m³ Air	1.3829		101	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	30.9	2.63	ng/m³ Air	27.658		112	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	9.10	1.89	ng/m³ Air	8.2975		110	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.24	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.78	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.5	80-120			
Vanadium	2.83	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	97.3	76.8	ng/m³ Air	82.975		117	80-120			
LCS (B4K1911-BS2)					Prepared & Analyzed: 11/19/24					
Antimony	0.762	0.0386	ng/m³ Air	1.3829		55.1	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	30.3	2.63	ng/m³ Air	27.658		109	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	9.01	1.89	ng/m³ Air	8.2975		109	80-120			
Molybdenum	1.48	0.359	ng/m³ Air	1.3829		107	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.6	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	96.0	76.8	ng/m³ Air	82.975		116	80-120			
Duplicate (B4K1911-DUP1)		**Source: 4111838-15**			Prepared & Analyzed: 11/19/24					
Antimony	0.0953	0.0315	ng/m³ Air		0.0978			2.59	10	SL
Arsenic	0.227	0.00766	ng/m³ Air		0.222			2.11	10	
Barium	3.50	0.874	ng/m³ Air		3.55			1.37	10	
Beryllium	0.00833	0.00261	ng/m³ Air		0.00833			0.0194	10	
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	ND	1.81	ng/m³ Air		ND				10	U
Cobalt	0.265	0.0356	ng/m³ Air		0.259			2.31	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Duplicate (B4K1911-DUP1) Continued			**Source: 4111838-15**		Prepared & Analyzed: 11/19/24					
Copper	22.8	2.15	ng/m³ Air		22.1			3.14	10	
Lead	0.467	0.175	ng/m³ Air		0.541			14.6	10	
Manganese	8.86	1.54	ng/m³ Air		8.59			3.00	10	
Molybdenum	1.37	0.293	ng/m³ Air		1.37			0.0235	10	
Nickel	0.958	0.533	ng/m³ Air		0.998			4.09	10	
Selenium	0.176	0.00732	ng/m³ Air		0.177			0.615	10	
Thallium	8.99E-4	4.81E-4	ng/m³ Air		9.32E-4			3.64	10	
Vanadium	0.849	0.0432	ng/m³ Air		0.832			2.00	10	
Zinc	ND	62.8	ng/m³ Air		ND				10	U
Duplicate (B4K1911-DUP2)			**Source: 4111838-02**		Prepared & Analyzed: 11/19/24					
Antimony	0.164	0.0300	ng/m³ Air		0.162			1.27	10	SL
Arsenic	0.688	0.00729	ng/m³ Air		0.682			0.857	10	
Barium	13.7	0.832	ng/m³ Air		11.8			14.8	10	
Beryllium	0.0383	0.00249	ng/m³ Air		0.0417			8.47	10	
Cadmium	0.143	0.0576	ng/m³ Air		0.155			8.30	10	
Chromium	6.67	1.72	ng/m³ Air		7.07			5.73	10	
Cobalt	1.55	0.0339	ng/m³ Air		1.62			4.64	10	
Copper	43.3	2.05	ng/m³ Air		43.6			0.627	10	
Lead	2.14	0.166	ng/m³ Air		2.31			7.61	10	
Manganese	41.5	1.47	ng/m³ Air		43.0			3.68	10	
Molybdenum	2.10	0.279	ng/m³ Air		2.03			3.36	10	
Nickel	4.66	0.507	ng/m³ Air		4.97			6.51	10	
Selenium	0.231	0.00697	ng/m³ Air		0.245			5.98	10	
Thallium	0.00259	4.58E-4	ng/m³ Air		0.00272			4.65	10	
Vanadium	4.60	0.0411	ng/m³ Air		4.92			6.74	10	
Zinc	ND	59.7	ng/m³ Air		ND				10	U
Duplicate (B4K1911-DUP3)			**Source: 4111838-22**		Prepared: 11/19/24 Analyzed: 11/20/24					
Antimony	0.0512	0.0338	ng/m³ Air		0.0500			2.32	10	SL
Arsenic	0.0963	0.00820	ng/m³ Air		0.0963			0.00814	10	
Barium	2.80	0.936	ng/m³ Air		2.78			0.797	10	
Beryllium	0.00791	0.00280	ng/m³ Air		0.00786			0.648	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	ND	1.93	ng/m³ Air		ND				10	U
Cobalt	0.220	0.0382	ng/m³ Air		0.220			0.287	10	
Copper	39.3	2.30	ng/m³ Air		39.2			0.236	10	
Lead	0.242	0.187	ng/m³ Air		0.244			0.513	10	
Manganese	5.99	1.65	ng/m³ Air		5.91			1.25	10	
Molybdenum	2.36	0.314	ng/m³ Air		2.37			0.342	10	

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FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Duplicate (B4K1911-DUP3) Continued		**Source: 4111838-22**		Prepared: 11/19/24 Analyzed: 11/20/24						
Nickel	0.985	0.571	ng/m³ Air		0.980			0.478	10	
Selenium	0.174	0.00784	ng/m³ Air		0.162			7.05	10	
Thallium	9.43E-4	5.15E-4	ng/m³ Air		0.00102			7.45	10	QB-04
Vanadium	0.810	0.0463	ng/m³ Air		0.803			0.878	10	
Zinc	ND	67.2	ng/m³ Air		ND				10	LJ, QX, U
Duplicate (B4K1911-DUP4)		**Source: 4111838-32**		Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.108	0.0327	ng/m³ Air		0.107			0.233	10	SL
Arsenic	0.659	0.00795	ng/m³ Air		0.661			0.391	10	
Barium	5.72	0.907	ng/m³ Air		5.69			0.570	10	LJ, QX
Beryllium	0.0242	0.00271	ng/m³ Air		0.0252			4.18	10	
Cadmium	ND	0.0628	ng/m³ Air		ND				10	U
Chromium	3.98	1.87	ng/m³ Air		3.97			0.0420	10	
Cobalt	0.869	0.0370	ng/m³ Air		0.868			0.0909	10	
Copper	17.4	2.23	ng/m³ Air		17.4			0.0618	10	
Lead	0.441	0.181	ng/m³ Air		0.439			0.447	10	
Manganese	31.2	1.60	ng/m³ Air		31.3			0.102	10	
Molybdenum	1.13	0.304	ng/m³ Air		1.14			0.808	10	
Nickel	2.13	0.553	ng/m³ Air		2.13			0.00670	10	
Selenium	0.205	0.00760	ng/m³ Air		0.217			5.61	10	
Thallium	0.00164	4.99E-4	ng/m³ Air		0.00165			0.708	10	QB-04
Vanadium	2.47	0.0449	ng/m³ Air		2.47			0.0670	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	LJ, QX, U
Matrix Spike (B4K1911-MS1)		**Source: 4111838-15**		Prepared & Analyzed: 11/19/24						
Antimony	0.763	0.0315	ng/m³ Air	1.1300	0.0978	58.9	80-120			SL
Arsenic	2.42	0.00766	ng/m³ Air	2.2600	0.222	97.1	80-120			
Barium	25.7	0.874	ng/m³ Air	22.600	3.55	98.1	80-120			
Beryllium	1.19	0.00261	ng/m³ Air	1.1300	0.00833	105	80-120			
Cadmium	1.16	0.0605	ng/m³ Air	1.1300	ND	102	80-120			
Chromium	13.3	1.81	ng/m³ Air	11.300	ND	118	80-120			
Cobalt	1.39	0.0356	ng/m³ Air	1.1300	0.259	99.9	80-120			
Copper	44.3	2.15	ng/m³ Air	22.600	22.1	98.1	80-120			
Lead	11.9	0.175	ng/m³ Air	11.300	0.541	101	80-120			
Manganese	15.6	1.54	ng/m³ Air	6.7800	8.59	103	80-120			
Molybdenum	2.45	0.293	ng/m³ Air	1.1300	1.37	95.6	80-120			
Nickel	3.27	0.533	ng/m³ Air	2.2600	0.998	100	80-120			
Selenium	2.36	0.00732	ng/m³ Air	2.2600	0.177	96.5	80-120			
Thallium	0.111	4.81E-4	ng/m³ Air	0.11300	9.32E-4	97.6	80-120			
Vanadium	3.05	0.0432	ng/m³ Air	2.2600	0.832	98.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Matrix Spike (B4K1911-MS1) Continued Source: 4111838-15 Prepared & Analyzed: 11/19/24										
Zinc	85.4	62.8	ng/m³ Air	67.800	ND	126	80-120			
Matrix Spike (B4K1911-MS2) Source: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Antimony	0.647	0.0300	ng/m³ Air	1.0756	0.162	45.2	80-120			SL
Arsenic	2.64	0.00729	ng/m³ Air	2.1513	0.682	91.0	80-120			
Barium	32.2	0.832	ng/m³ Air	21.513	11.8	94.8	80-120			
Beryllium	1.11	0.00249	ng/m³ Air	1.0756	0.0417	98.9	80-120			
Cadmium	1.13	0.0576	ng/m³ Air	1.0756	0.155	90.2	80-120			
Chromium	17.3	1.72	ng/m³ Air	10.756	7.07	94.9	80-120			
Cobalt	2.65	0.0339	ng/m³ Air	1.0756	1.62	95.3	80-120			
Copper	64.2	2.05	ng/m³ Air	21.513	43.6	95.7	80-120			
Lead	12.8	0.166	ng/m³ Air	10.756	2.31	97.5	80-120			
Manganese	48.3	1.47	ng/m³ Air	6.4539	43.0	81.1	80-120			
Molybdenum	3.03	0.279	ng/m³ Air	1.0756	2.03	92.8	80-120			
Nickel	7.04	0.507	ng/m³ Air	2.1513	4.97	96.1	80-120			
Selenium	2.30	0.00697	ng/m³ Air	2.1513	0.245	95.4	80-120			
Thallium	0.102	4.58E-4	ng/m³ Air	0.10756	0.00272	91.9	80-120			
Vanadium	6.83	0.0411	ng/m³ Air	2.1513	4.92	88.7	80-120			
Zinc	101	59.7	ng/m³ Air	64.539	ND	156	80-120			
Matrix Spike Dup (B4K1911-MSD1) Source: 4111838-15 Prepared & Analyzed: 11/19/24										
Antimony	0.771	0.0315	ng/m³ Air	1.1300	0.0978	59.6	80-120	0.966	20	SL
Arsenic	2.42	0.00766	ng/m³ Air	2.2600	0.222	97.4	80-120	0.236	20	
Barium	25.8	0.874	ng/m³ Air	22.600	3.55	98.5	80-120	0.322	20	
Beryllium	1.14	0.00261	ng/m³ Air	1.1300	0.00833	100	80-120	4.27	20	
Cadmium	1.16	0.0605	ng/m³ Air	1.1300	ND	102	80-120	0.157	20	
Chromium	13.1	1.81	ng/m³ Air	11.300	ND	116	80-120	1.33	20	
Cobalt	1.38	0.0356	ng/m³ Air	1.1300	0.259	99.1	80-120	0.574	20	
Copper	45.9	2.15	ng/m³ Air	22.600	22.1	105	80-120	3.45	20	
Lead	11.9	0.175	ng/m³ Air	11.300	0.541	101	80-120	0.0314	20	
Manganese	15.6	1.54	ng/m³ Air	6.7800	8.59	104	80-120	0.200	20	
Molybdenum	2.50	0.293	ng/m³ Air	1.1300	1.37	100	80-120	2.04	20	
Nickel	3.21	0.533	ng/m³ Air	2.2600	0.998	97.9	80-120	1.76	20	
Selenium	2.41	0.00732	ng/m³ Air	2.2600	0.177	98.9	80-120	2.26	20	
Thallium	0.112	4.81E-4	ng/m³ Air	0.11300	9.32E-4	98.0	80-120	0.413	20	
Vanadium	3.07	0.0432	ng/m³ Air	2.2600	0.832	98.9	80-120	0.670	20	
Zinc	84.2	62.8	ng/m³ Air	67.800	ND	124	80-120	1.48	20	
Matrix Spike Dup (B4K1911-MSD2) Source: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Antimony	0.613	0.0300	ng/m³ Air	1.0756	0.162	42.0	80-120	5.42	20	SL
Arsenic	2.65	0.00729	ng/m³ Air	2.1513	0.682	91.7	80-120	0.544	20	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Matrix Spike Dup (B4K1911-MSD2) Conti			**Source: 4111838-02**			Prepared: 11/19/24		Analyzed: 11/20/24		
Barium	32.4	0.832	ng/m³ Air	21.513	11.8	95.9	80-120	0.747	20	
Beryllium	1.12	0.00249	ng/m³ Air	1.0756	0.0417	99.9	80-120	0.936	20	
Cadmium	1.15	0.0576	ng/m³ Air	1.0756	0.155	92.3	80-120	1.93	20	
Chromium	17.2	1.72	ng/m³ Air	10.756	7.07	94.7	80-120	0.129	20	
Cobalt	2.71	0.0339	ng/m³ Air	1.0756	1.62	101	80-120	2.43	20	
Copper	63.4	2.05	ng/m³ Air	21.513	43.6	92.1	80-120	1.21	20	
Lead	12.6	0.166	ng/m³ Air	10.756	2.31	95.9	80-120	1.39	20	
Manganese	50.2	1.47	ng/m³ Air	6.4539	43.0	111	80-120	3.86	20	
Molybdenum	2.98	0.279	ng/m³ Air	1.0756	2.03	87.9	80-120	1.74	20	
Nickel	7.24	0.507	ng/m³ Air	2.1513	4.97	106	80-120	2.85	20	
Selenium	2.24	0.00697	ng/m³ Air	2.1513	0.245	92.7	80-120	2.63	20	
Thallium	0.0994	4.58E-4	ng/m³ Air	0.10756	0.00272	89.9	80-120	2.13	20	
Vanadium	7.01	0.0411	ng/m³ Air	2.1513	4.92	97.3	80-120	2.67	20	
Zinc	101	59.7	ng/m³ Air	64.539	ND	156	80-120	0.122	20	
Post Spike (B4K1911-PS1)			**Source: 4111838-15**			Prepared & Analyzed: 11/19/24				
Antimony	0.323	0.0315	ng/m³ Air	0.22600	0.0978	99.9	75-125			SL
Arsenic	1.28	0.00766	ng/m³ Air	1.1300	0.222	93.4	75-125			
Barium	5.78	0.874	ng/m³ Air	2.2600	3.55	98.9	75-125			
Beryllium	0.235	0.00261	ng/m³ Air	0.22600	0.00833	100	75-125			
Cadmium	0.124	0.0605	ng/m³ Air	0.11300	ND	110	75-125			
Chromium	2.90	1.81	ng/m³ Air	1.1300	ND	257	75-125			
Cobalt	0.484	0.0356	ng/m³ Air	0.22600	0.259	99.8	75-125			
Copper	34.0	2.15	ng/m³ Air	11.300	22.1	105	75-125			
Lead	23.1	0.175	ng/m³ Air	22.600	0.541	99.7	75-125			
Manganese	11.1	1.54	ng/m³ Air	2.2600	8.59	112	75-125			
Molybdenum	2.46	0.293	ng/m³ Air	1.1300	1.37	97.1	75-125			
Nickel	3.25	0.533	ng/m³ Air	2.2600	0.998	99.6	75-125			
Selenium	1.27	0.00732	ng/m³ Air	1.1300	0.177	96.8	75-125			
Thallium	0.0570	4.81E-4	ng/m³ Air	5.6500E-2	9.32E-4	99.2	75-125			
Vanadium	1.94	0.0432	ng/m³ Air	1.1300	0.832	98.4	75-125			
Zinc	ND	62.8	ng/m³ Air	22.600	ND		75-125			U
Post Spike (B4K1911-PS2)			**Source: 4111838-02**			Prepared: 11/19/24		Analyzed: 11/20/24		
Antimony	0.374	0.0300	ng/m³ Air	0.21513	0.162	98.8	75-125			SL
Arsenic	1.69	0.00729	ng/m³ Air	1.0756	0.682	93.3	75-125			
Barium	13.8	0.832	ng/m³ Air	2.1513	11.8	93.8	75-125			
Beryllium	0.261	0.00249	ng/m³ Air	0.21513	0.0417	102	75-125			
Cadmium	0.262	0.0576	ng/m³ Air	0.10756	0.155	99.0	75-125			
Chromium	8.07	1.72	ng/m³ Air	1.0756	7.07	93.6	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Post Spike (B4K1911-PS2) Continued		**Source: 4111838-02**		Prepared: 11/19/24 Analyzed: 11/20/24						
Cobalt	1.84	0.0339	ng/m³ Air	0.21513	1.62	102	75-125			
Copper	54.6	2.05	ng/m³ Air	10.756	43.6	102	75-125			
Lead	23.6	0.166	ng/m³ Air	21.513	2.31	98.8	75-125			
Manganese	45.7	1.47	ng/m³ Air	2.1513	43.0	122	75-125			
Molybdenum	2.97	0.279	ng/m³ Air	1.0756	2.03	87.8	75-125			
Nickel	7.11	0.507	ng/m³ Air	2.1513	4.97	99.4	75-125			
Selenium	1.26	0.00697	ng/m³ Air	1.0756	0.245	94.1	75-125			
Thallium	0.0535	4.58E-4	ng/m³ Air	5.3782E-2	0.00272	94.5	75-125			
Vanadium	5.96	0.0411	ng/m³ Air	1.0756	4.92	96.3	75-125			
Zinc	ND	59.7	ng/m³ Air	21.513	ND		75-125			U
Dilution Check (B4K1911-SRL1)		**Source: 4111838-15**		Prepared & Analyzed: 11/19/24						
Antimony	ND	0.158	ng/m³ Air		ND				10	SL, U
Arsenic	0.228	0.0383	ng/m³ Air		0.222			2.26	10	
Barium	ND	4.37	ng/m³ Air		ND				10	U
Beryllium	ND	0.0131	ng/m³ Air		ND				10	U
Cadmium	ND	0.303	ng/m³ Air		ND				10	U
Chromium	ND	9.03	ng/m³ Air		ND				10	U
Cobalt	0.260	0.178	ng/m³ Air		0.259			0.514	10	
Copper	22.2	10.7	ng/m³ Air		22.1			0.487	10	
Lead	ND	0.874	ng/m³ Air		ND				10	U
Manganese	8.61	7.72	ng/m³ Air		8.59			0.142	10	
Molybdenum	ND	1.47	ng/m³ Air		ND				10	U
Nickel	ND	2.66	ng/m³ Air		ND				10	U
Selenium	0.207	0.0366	ng/m³ Air		0.177			15.8	10	
Thallium	ND	0.00241	ng/m³ Air		ND				10	U
Vanadium	0.853	0.216	ng/m³ Air		0.832			2.54	10	
Zinc	ND	314	ng/m³ Air		ND				10	U
Dilution Check (B4K1911-SRL2)		**Source: 4111838-02**		Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.165	0.150	ng/m³ Air		0.162			1.93	10	SL
Arsenic	0.707	0.0364	ng/m³ Air		0.682			3.60	10	
Barium	11.9	4.16	ng/m³ Air		11.8			1.29	10	
Beryllium	0.0376	0.0124	ng/m³ Air		0.0417			10.4	10	
Cadmium	ND	0.288	ng/m³ Air		ND				10	U
Chromium	ND	8.59	ng/m³ Air		ND				10	U
Cobalt	1.70	0.170	ng/m³ Air		1.62			4.62	10	
Copper	47.1	10.2	ng/m³ Air		43.6			7.76	10	
Lead	2.28	0.832	ng/m³ Air		2.31			0.977	10	
Manganese	44.6	7.35	ng/m³ Air		43.0			3.53	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1911 - ICP-MS Extraction										
Dilution Check (B4K1911-SRL2) ContinueSource: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Molybdenum	2.17	1.40	ng/m³ Air		2.03			6.49	10	
Nickel	5.25	2.54	ng/m³ Air		4.97			5.35	10	
Selenium	0.248	0.0348	ng/m³ Air		0.245			1.31	10	
Thallium	0.00611	0.00229	ng/m³ Air		0.00272			77.0	10	
Vanadium	5.06	0.206	ng/m³ Air		4.92			2.88	10	
Zinc	ND	299	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/02/2024 and Shanna Vasser 12/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 11/07/2024 – 11/13/2024
Report No: 4111838

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Blank detections above the method detection limit were reported for barium in MFL-FB01-110824-HM, MFL-LB01-110824-HM, MFL-FB01-111024-HM, and MFL-FB01-111224-HM.

Notes:

7. MFL-AM03-110924-HM was analyzed at a five-fold dilution for arsenic, cadmium, molybdenum, selenium, and vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

November 14 through November 20, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from November 14 through November 20, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from November 14 through November 20 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) for one hour on November 20, resulting in the collection of 23 hours of PM_{10} data

The equipment fault on November 20 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a

shortened monitoring duration which reduced the time weighted average (TWA) calculation to 23-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on November 18
- WW Pump Station #4 on November 18 and 19
- Lahaina Recreational Center on November 18

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

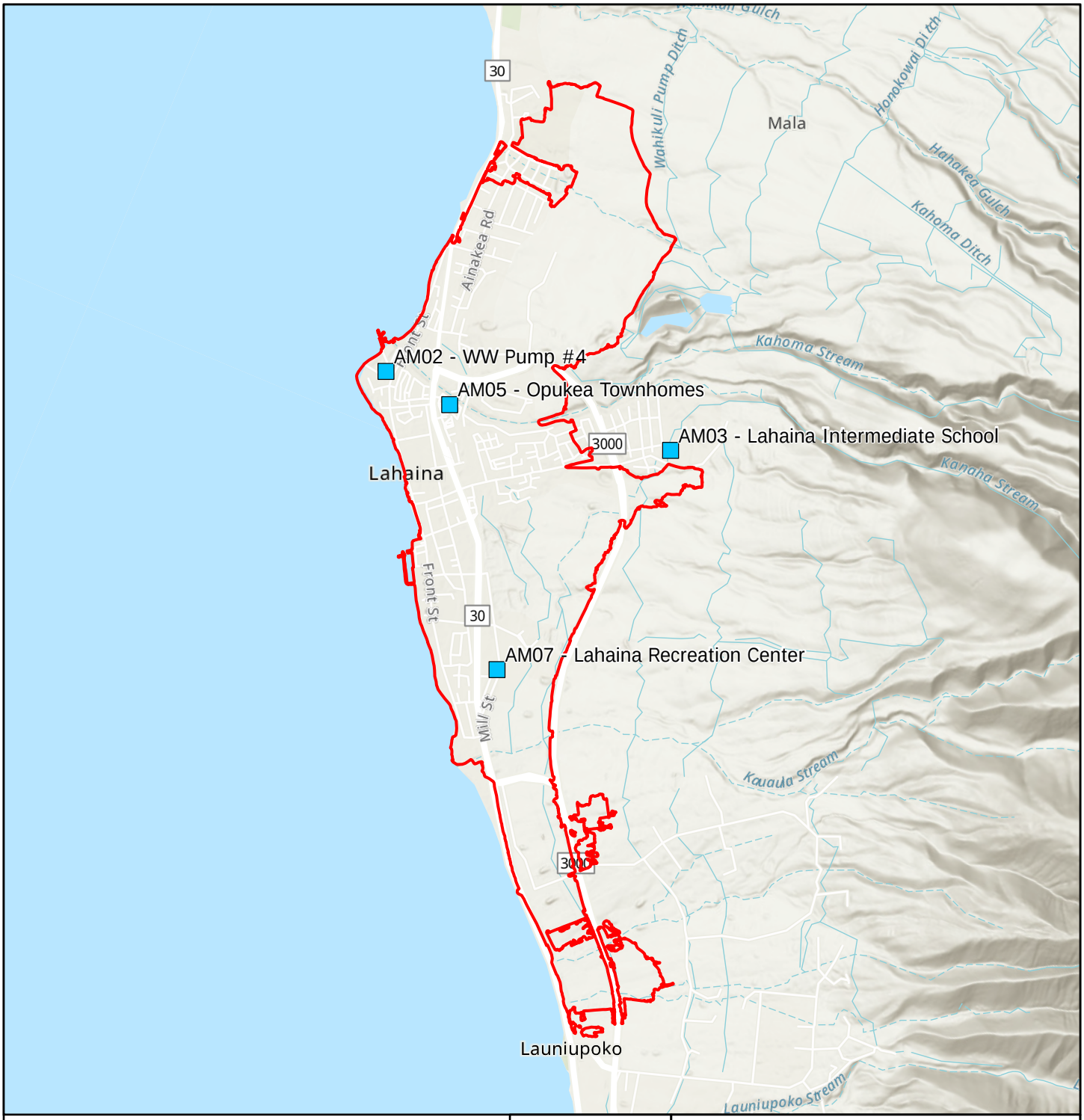
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
November 14 through November 20, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
11/14/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	104
	Lahaina Recreation Center (AM-07)	8.1
11/15/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	8.8
	Lahaina Recreation Center (AM-07)	8.4
11/16/2024	Opukea Townhomes (AM-05)	15
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	13
	Lahaina Recreation Center (AM-07)	10
11/17/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Recreation Center (AM-07)	7.1
11/18/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	6.6
	Lahaina Recreation Center (AM-07)	7.4
11/19/2024	Opukea Townhomes (AM-05)	9.6
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Recreation Center (AM-07)	6.7
11/20/2024	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	6.7*
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Recreation Center (AM-07)	5.9

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided were from a reduced (23-hr) TWA calculation because of an equipment fault

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
November 14 through November 20, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
11/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.000117	0.000395	0.00659	0.0000287	ND	0.00488	0.00106	0.0289	0.000869	0.0287	0.00133	0.00335	0.000174	0.00000186	0.00310	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000163	0.000831	0.00950	0.0000413	0.000139	0.00563	0.00146	0.0327	0.00305	0.0390	0.00109	0.00376	0.000201	0.00000207	0.00436	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000588	0.000149	0.00281	0.0000206	ND	0.00302	0.000380	0.0452	0.000435	0.00879	0.00217	0.00147	0.000131	0.000000893	0.000961	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000110	0.000849	0.00585	0.0000311	ND	0.00452	0.00108	0.0146	0.000696	0.0365	0.000720	0.00248	0.000181	0.00000196	0.00285	ND
11/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.000125	0.000295	0.00548	0.0000179	ND	0.00352	0.000713	0.0350	0.000577	0.0177	0.00192	0.00227	0.000217	0.00000115	0.00203	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000225	0.000531	0.00804	0.0000286	0.000149	0.00445	0.000996	0.0439	0.00146	0.0260	0.00165	0.00316	0.000238	0.00000139	0.00313	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000876	0.000117	0.00274	0.0000178	ND	0.00215	0.000325	0.0413	0.000341	0.00759	0.00237	0.00119	0.000209	0.000000699	0.000971	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000848	0.000593	0.00458	0.0000230	ND	0.00367	0.000808	0.0182	0.000386	0.0259	0.000926	0.00201	0.000224	0.00000131	0.00223	ND
11/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.000165	0.000193	0.00524	0.0000141	ND	0.00238	0.000472	0.0392	0.000435	0.0134	0.00207	0.00140	0.000250	0.000000998	0.00153	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000290	0.000855	0.00771	0.0000212	ND	0.00315	0.000735	0.0407	0.00152	0.0212	0.00183	0.00199	0.000264	0.00000137	0.00227	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000136	0.0000845	0.00235	0.0000104	ND	ND	0.000224	0.0248	ND	0.00620	0.00152	0.000846	0.000178	0.000000553	0.000663	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000798	0.000189	0.00324	0.0000140	ND	0.00278	0.000368	0.0222	0.000251	0.0115	0.00110	0.00132	0.000225	0.000000820	0.00109	ND
11/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.000125	0.000426	0.00635	0.0000288	ND	0.00441	0.000988	0.0458	0.00123	0.0271	0.00223	0.00249	0.000232	0.00000194	0.00275	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000167	0.000690	0.00768	0.0000390	0.000606	0.00549	0.00124	0.0434	0.00212	0.0343	0.00117	0.00310	0.000243	0.00000214	0.00376	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000416	0.000322	0.00638	0.000164	ND	0.00932	0.00202	0.0395	0.000793	0.0421	0.00122	0.00517	0.000279	0.00000241	0.00524	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000104	0.000489	0.00479	0.0000395	0.000416	0.00687	0.00138	0.0281	0.00111	0.0348	0.000808	0.00347	0.000235	0.00000186	0.00343	ND
11/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000114	0.000241	0.00396	0.0000143	ND	0.00562	0.000423	0.0475	0.000604	0.0132	0.00237	0.00146	0.000176	0.00000119	0.00138	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000244	0.000248	0.00454	0.0000129	ND	0.00221	0.000438	0.0393	0.00229	0.0109	0.00172	0.00139	0.000179	0.000000874	0.00135	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000556	0.000103	0.00214	0.0000163	ND	0.00271	0.000286	0.0482	0.000261	0.00710	0.00214	0.00148	0.000168	0.000000865	0.000767	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000692	0.000327	0.00307	0.0000174	ND	0.00274	0.000560	0.0243	0.000293	0.0175	0.00100	0.00146	0.000177	0.00000120	0.00157	ND
11/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.000194	0.000550	0.00630	0.0000198	ND	0.00354	0.000774	0.0487	0.000942	0.0185	0.00201	0.00237	0.000228	0.00000180	0.00243	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000307	0.000381	0.00776	0.0000243	ND	0.00432	0.000911	0.0422	0.000942	0.0228	0.00159	0.00287	0.000222	0.00000174	0.00307	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000795	0.000133	0.00279	0.0000168	ND	0.00241	0.000323	0.0581	0.000320	0.00829	0.00247	0.00143	0.000198	0.00000119	0.00103	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000118	0.000429	0.00391	0.0000176	ND	0.00366	0.000584	0.0291	0.000342	0.0188	0.00128	0.00225	0.000208	0.00000151	0.00178	ND
11/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000148	0.000478	0.00473	0.0000146	ND	0.00254	0.000465	0.0423	0.00103	0.0133	0.00181	0.00172	0.000181	0.00000144	0.00151	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000184	0.000299	0.00628	0.0000214	ND	0.00293	0.000703	0.0398	0.000857	0.0203	0.00147	0.00195	0.000197	0.00000135	0.00250	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000651	0.000152	0.00280	0.0000219	ND	0.00275	0.000396	0.0570	0.000344	0.0104	0.00234	0.00164	0.000172	0.00000107	0.00112	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000691	0.000600	0.00427	0.0000234	ND	0.00320	0.000692	0.0280	0.000420	0.0242	0.00114	0.00181	0.000206	0.00000166	0.00207	ND
95% Upper Confidence Limit[2]		NA	0.000160	0.000530	0.00592	0.0000310	0.000593	0.00442	0.000920	0.0253	0.000119	0.0253	0.00185	0.00254	0.000220	0.00000160	0.00270	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
November 14, through November 20, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/14/2024	AM-02	WW Pump Station #4	2.0	ESE	82	55	762.7
11/14/2024	AM-03	Lahaina Intermediate School	1.9	ESE	80	56	753.6
11/14/2024	AM-05	Opukea Townhomes	1.8	ESE	81	52	762.2
11/14/2024	AM-07	Lahaina Recreational Center	1.7	SSE	80	57	762.1
11/15/2024	AM-02	WW Pump Station #4	0.9	S	80	59	762.7
11/15/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	57	753.6
11/15/2024	AM-05	Opukea Townhomes	1.0	SE	80	55	762.3
11/15/2024	AM-07	Lahaina Recreational Center	1.3	SSE	78	60	762.1
11/16/2024	AM-02	WW Pump Station #4	1.3	SSE	81	57	763.3
11/16/2024	AM-03	Lahaina Intermediate School	1.4	SE	78	56	754.1
11/16/2024	AM-05	Opukea Townhomes	1.2	SE	80	53	762.9
11/16/2024	AM-07	Lahaina Recreational Center	1.7	SSE	78	58	762.6
11/17/2024	AM-02	WW Pump Station #4	1.0	S	81	58	763.7
11/17/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	56	754.5
11/17/2024	AM-05	Opukea Townhomes	1.2	SE	80	54	763.3
11/17/2024	AM-07	Lahaina Recreational Center	1.8	SSW	79	58	763.0
11/18/2024	AM-02	WW Pump Station #4	1.0	S	80	63	763.4
11/18/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	61	754.2
11/18/2024	AM-05	Opukea Townhomes	1.2	SE	79	60	762.9
11/18/2024	AM-07	Lahaina Recreational Center	1.4	SSE	78	64	762.7
11/19/2024	AM-02	WW Pump Station #4	0.9	S	79	67	762.3
11/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	77	66	753.2
11/19/2024	AM-05	Opukea Townhomes	1.2	SE	78	62	761.9
11/19/2024	AM-07	Lahaina Recreational Center	1.3	SE	77	68	761.7
11/20/2024	AM-02	WW Pump Station #4	1.0	SSE	78	58	761.7
11/20/2024	AM-03	Lahaina Intermediate School	1.1	ESE	77	54	752.5
11/20/2024	AM-05	Opukea Townhomes	1.3	ESE	77	55	761.2
11/20/2024	AM-07	Lahaina Recreational Center	1.4	SE	78	55	760.8

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111424-AB**		**Sample Description:**	**DL264110**
EMSL Sample Number:	042423952-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0001 **Customer Sample:** MFL-AM05-111424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J7	None Detected									
A5	H4	None Detected									
A5	C5	None Detected									
A6	G5	None Detected									
A6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111424-AB**	**Sample Description:**	**DL264118**
EMSL Sample Number:	042423952-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7134.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0002 **Customer Sample:** MFL-AM02-111424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	F4	None Detected									
B1	G9	None Detected									
B1	J6	None Detected									
B2	B7	None Detected									
B2	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-111424-AB**		**Sample Description:**	**DL264142**
EMSL Sample Number:	042423952-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7287.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0003 **Customer Sample:** MFL-AM03-111424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	C5	None Detected									
B5	E8	None Detected									
B6	I2	None Detected									
B6	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/22/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111424-AB** **Sample Description: DL264201**

EMSL Sample Number:	042423952-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0004 **Customer Sample:** MFL-AM07-111424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G3	None Detected									
C1	D2	None Detected									
C1	B6	None Detected									
C2	B5	None Detected									
C2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111424-AB** **Sample Description: DL264156**

EMSL Sample Number:	042423952-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
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EMSL Order ID:	**042423952**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0005 **Customer Sample:** MFL-FB01-111424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A8	None Detected									
C5	C7	None Detected									
C5	E8	None Detected									
C5	G9	None Detected									
C5	I10	None Detected									
C6	J4	None Detected									
C6	H6	None Detected									
C6	F4	None Detected									
C6	D1	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111524-AB** **Sample Description: DL264200**

EMSL Sample Number:	042423952-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0006 **Customer Sample:** MFL-AM05-111524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J5	None Detected									
D1	G6	None Detected									
D1	D8	None Detected									
D2	B4	None Detected									
D2	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111524-AB** **Sample Description: DL264141**

EMSL Sample Number:	042423952-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6424.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0007 **Customer Sample:** MFL-AM02-111524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J8	None Detected									
D5	G8	None Detected									
D5	D7	None Detected									
D6	I5	None Detected									
D6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111524-AB** **Sample Description: DL264130**

EMSL Sample Number:	042423952-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0008 **Customer Sample:** MFL-AM03-111524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	A7	None Detected									
E1	C10	None Detected									
E1	F7	None Detected									
E2	I5	None Detected									
E2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111524-AB** **Sample Description: DL264140**

EMSL Sample Number:	042423952-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0009 **Customer Sample:** MFL-AM07-111524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A6	None Detected									
E5	D5	None Detected									
E5	H3	None Detected									
E6	H8	None Detected									
E6	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111524-AB** **Sample Description: DL264133**

EMSL Sample Number:	042423952-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0010 **Customer Sample:** MFL-FB01-111524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A1	None Detected									
F2	C3	None Detected									
F2	E3	None Detected									
F2	G4	None Detected									
F2	I7	None Detected									
F3	A2	None Detected									
F3	C3	None Detected									
F3	E4	None Detected									
F3	G2	None Detected									
F3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111624-AB**		**Sample Description:**	**DL264154**
EMSL Sample Number:	042423952-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6925.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0011 **Customer Sample:** MFL-AM05-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F6	J6	None Detected									
F6	G3	None Detected									
F6	D5	None Detected									
F7	F1	None Detected									
F7	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111624-AB**	**Sample Description:**	**DL264155**
EMSL Sample Number:	042423952-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7051.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0012 **Customer Sample:** MFL-AM02-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B7	None Detected									
G1	E9	None Detected									
G1	H6	None Detected									
G2	C6	None Detected									
G2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-111624-AB**		**Sample Description:**	**DL264138**
EMSL Sample Number:	042423952-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7127.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0013 **Customer Sample:** MFL-AM03-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B6	None Detected									
G5	E2	None Detected									
G5	F7	None Detected									
G6	A5	None Detected									
G6	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111624-AB** **Sample Description: DL264125**

EMSL Sample Number:	042423952-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0014 **Customer Sample:** MFL-AM07-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H9	None Detected									
H1	E7	None Detected									
H1	D3	None Detected									
H2	B8	None Detected									
H2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111624-AB** **Sample Description: DL264083**

EMSL Sample Number:	042423952-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042423952**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0015 **Customer Sample:** MFL-FB01-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J2	None Detected									
H5	H5	None Detected									
H5	F1	None Detected									
H5	D5	None Detected									
H5	B4	None Detected									
H6	A7	None Detected									
H6	C8	None Detected									
H6	E3	None Detected									
H6	G7	None Detected									
H6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111724-AB**		**Sample Description:**	**DL264073**
EMSL Sample Number:	042423952-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6931.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0016 **Customer Sample:** MFL-AM05-111724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A7	None Detected									
I2	D4	None Detected									
I2	H8	None Detected									
I3	D8	None Detected									
I3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111724-AB** **Sample Description: DL264120**

EMSL Sample Number:	042423952-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0017 **Customer Sample:** MFL-AM02-111724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	H6	None Detected									
I5	F8	None Detected									
I5	D4	None Detected									
I6	C7	None Detected									
I6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111724-AB** **Sample Description: DL264076**

EMSL Sample Number:	042423952-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7342.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0018 **Customer Sample:** MFL-AM03-111724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B6	None Detected									
J1	D7	None Detected									
J1	G7	None Detected									
J2	C8	None Detected									
J2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-111724-AB**		**Sample Description:**	**DL264070**
EMSL Sample Number:	042423952-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7255.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0019 **Customer Sample:** MFL-AM07-111724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	A8	None Detected									
J5	E10	None Detected									
J5	H7	None Detected									
J6	D7	None Detected									
J6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111724-AB** **Sample Description: DL264119**

EMSL Sample Number:	042423952-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0020 **Customer Sample:** MFL-FB01-111724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A4	None Detected									
K1	C6	None Detected									
K1	E3	None Detected									
K1	G3	None Detected									
K1	I5	None Detected									
K2	J7	None Detected									
K2	H9	None Detected									
K2	F7	None Detected									
K2	D4	None Detected									
K2	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-111624-AB** **Sample Description: DL264063**

EMSL Sample Number:	042423952-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0021 **Customer Sample:** MFL-LB01-111624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J7	None Detected									
K5	H5	None Detected									
K5	F7	None Detected									
K5	D5	None Detected									
K5	B6	None Detected									
K6	A7	None Detected									
K6	C8	None Detected									
K6	E3	None Detected									
K6	G6	None Detected									
K6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042423952
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/20/2024 10:00 AM
Analysis Date:	11/22/2024
Report Date:	11/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042423952-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042423952
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042423952-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B10	None Detected									
A1	D6	None Detected									
A1	F8	None Detected									
A1	H9	None Detected									
A1	J6	None Detected									
A2	J9	None Detected									
A2	H6	None Detected									
A2	F2	None Detected									
A2	D4	None Detected									
A2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042423952

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only: 042423952

RECEIVED EMSL CINNAMINSON, NJ 24 NOV 20 PM 12:11

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(303) 489-2674
Email(s) for Report:	Chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Nicholas Keefe
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-111424-AB	DL264110	7190.821	11/14/24 1103
MFL-AM02-111424-AB	DL264118	7134.335	11/14/24 1118
MFL-AM03-111424-AB	DL264142	7287.844	11/14/24 1252
MFL-AM07-111424-AB	DL264201	7194.791	11/14/24 1310
MFL-FB01-111424-AB	DL264156	0	11/14/24 1200
MFL-AM05-111524-AB	DL264200	7164.015	11/15/24 1056
MFL-AM02-111524-AB	DL264141	6424.918	11/15/24 1115
MFL-AM03-111524-AB	DL264130	7197.120	11/15/24 1254

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/18/24 8:30	Received by:	Date/Time 11/20/24 1215
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042423952

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042423952

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON NJ
24 NOV 20 PM 12:11

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-111524-AB	DL264140	7212.844	11/15/24 1312
MFL-FB01-111524-AB	DL264133	0	11/15/24 1208
MFL-AM05-111624-AB	DL264154	6925.133	11/16/24 1058
MFL-AM02-111624-AB	DL264155	7050.972	11/16/24 1115
MFL-AM03-111624-AB	DL264138	7127.865	11/16/24 1244
MFL-AM07-111624-AB	DL264125	7197.717	11/16/24 1312
MFL-FB01-111624-AB	DL264083	0	11/16/24 1200
MFL-AM05-111724-AB	DL264073	6931.882	11/17/24 1056
MFL-AM02-111724-AB	DL264120	7082.182	11/17/24 1109
MFL-AM03-111724-AB	DL264076	7342.190	11/17/24 1251
MFL-AM07-111724-AB	DL264070	7255.944	11/17/24 1313
MFL-FB01-111724-AB	DL264119	0	11/17/24 1206
MFL-LB01-111624-AB	DL264063	0	11/16/24 1205

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/18/24 0830	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/26/2024 and Shanna Vasser 12/2/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/14/2024 – 11/17/2024
Report No: 42423952

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111824-AB** **Sample Description: DL264091**

EMSL Sample Number:	042424238-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0001 **Customer Sample:** MFL-AM05-111824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A8	None Detected									
A5	E4	None Detected									
A5	I6	None Detected									
A6	B4	None Detected									
A6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111824-AB**		**Sample Description:**	**DL264060**
EMSL Sample Number:	042424238-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0002 **Customer Sample:** MFL-AM02-111824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C7	None Detected									
B1	E4	None Detected									
B1	J7	None Detected									
B2	B5	None Detected									
B2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111824-AB** **Sample Description: DL264104**

EMSL Sample Number:	042424238-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0003 **Customer Sample:** MFL-AM03-111824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I8	None Detected									
B5	G4	None Detected									
B5	D7	None Detected									
B6	A6	None Detected									
B6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/25/2024 09:20 AM
Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111824-AB** **Sample Description: DL264094**

EMSL Sample Number:	042424238-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0004 **Customer Sample:** MFL-AM07-111824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	H8	None Detected									
C1	F3	None Detected									
C1	D6	None Detected									
C2	A9	None Detected									
C2	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/25/2024 09:20 AM
Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111824-AB** **Sample Description: DL264062**

EMSL Sample Number:	042424238-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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EMSL Order ID:	**042424238**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0005 **Customer Sample:** MFL-FB01-111824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J6	None Detected									
C5	G3	None Detected									
C5	E7	None Detected									
C5	B4	None Detected									
C6	I3	None Detected									
C6	F4	None Detected									
C6	A3	None Detected									
C7	H7	None Detected									
C7	G2	None Detected									
C7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111924-AB**	**Sample Description:**	**DL264075**
EMSL Sample Number:	042424238-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7147.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0006 **Customer Sample:** MFL-AM05-111924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I5	None Detected									
D2	D6	None Detected									
D2	A9	None Detected									
D3	H7	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111924-AB**	**Sample Description:**	**DL264099**
EMSL Sample Number:	042424238-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6760.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0007 **Customer Sample:** MFL-AM02-111924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	C2	None Detected									
D5	F3	None Detected									
D5	J3	None Detected									
D6	B4	None Detected									
D6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-111924-AB**	**Sample Description:**	**DL264074**
EMSL Sample Number:	042424238-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7209.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0008 **Customer Sample:** MFL-AM03-111924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	C8	None Detected									
E3	F10	None Detected									
E3	I6	None Detected									
E4	H3	None Detected									
E4	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	12/02/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-111924-AB**	**Sample Description:**	**DL264069**
EMSL Sample Number:	042424238-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7186.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0009 **Customer Sample:** MFL-AM07-111924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	E8	None Detected									
F5	D6	None Detected									
F5	B2	None Detected									
F6	C9	None Detected									
F6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-111924-AB**		**Sample Description:**	**DL264100**
EMSL Sample Number:	042424238-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0010 **Customer Sample:** MFL-FB01-111924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F3	A5	None Detected									
F3	C6	None Detected									
F3	E8	None Detected									
F3	G6	None Detected									
F3	I3	None Detected									
F4	A4	None Detected									
F4	C6	None Detected									
F4	E9	None Detected									
F4	G6	None Detected									
F4	I1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112024-AB**	**Sample Description:**	**DL264098**
EMSL Sample Number:	042424238-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7240.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0011 **Customer Sample:** MFL-AM05-112024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	B6	None Detected									
F5	E9	None Detected									
F5	H7	None Detected									
F6	A5	None Detected									
F6	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112024-AB**	**Sample Description:**	**DL264079**
EMSL Sample Number:	042424238-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6738.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0012 **Customer Sample:** MFL-AM02-112024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B7	None Detected									
G2	E4	None Detected									
G2	I8	None Detected									
G3	I3	None Detected									
G3	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112024-AB**	**Sample Description:**	**DL264090**
EMSL Sample Number:	042424238-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7226.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0013 **Customer Sample:** MFL-AM03-112024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	H6	None Detected									
G5	E8	None Detected									
G5	B6	None Detected									
G6	I7	None Detected									
G6	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112024-AB**	**Sample Description:**	**DL264101**
EMSL Sample Number:	042424238-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7253.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0014 **Customer Sample:** MFL-AM07-112024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	I3	None Detected									
H2	G5	None Detected									
H2	D3	None Detected									
H3	I4	None Detected									
H3	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	12/02/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-112024-AB** **Sample Description: DL264092**

EMSL Sample Number:	042424238-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0015 **Customer Sample:** MFL-FB01-112024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J3	None Detected									
H5	H1	None Detected									
H5	F4	None Detected									
H5	D5	None Detected									
H5	B2	None Detected									
H6	J2	None Detected									
H6	H5	None Detected									
H6	F1	None Detected									
H6	D4	None Detected									
H6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424238
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/25/2024 09:20 AM
Analysis Date:	11/29/2024
Report Date:	12/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042424238-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424238
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424238-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A7	None Detected									
A1	D9	None Detected									
A1	G6	None Detected									
A1	J3	None Detected									
A2	B3	None Detected									
A2	E7	None Detected									
A2	H4	None Detected									
A3	I8	None Detected									
A3	F10	None Detected									
A3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042424238

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only: 042424238

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 NOV 25 AM 11:06

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: Chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Nicholas Keefe
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☐ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-111824-AB	DL264091	7199.245	11/18/24 1057
MFL-AM02-111824-AB	DL264060	7154.555	11/18/24 1113
MFL-AM03-111824-AB	DL264104	7230.624	11/18/24 1252
MFL-AM07-111824-AB	DL264094	7219.191	11/18/24 1314
MFL-FB01-111824-AB	DL264062	0	11/18/24 1200
MFL-AM05-111924-AB	DL264075	7147.501	11/19/24 1051
MFL-AM02-111924-AB	DL264099	6760.912	11/19/24 1107
MFL-AM03-111924-AB	DL264074	7209.151	11/19/24 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
	11/21/24 1100		11.25.24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042424238

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042424238

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
EMSL-CINN
CINNAMINSON, NJ
24 NOV 25 AM 11:06

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-111924-AB	DL264069	7186.911	11/19/24 1312
MFL-FB01-111924-AB	DL264100	0	11/19/24 1200
MFL-AM05-112024-AB	DL264098	7240.845	11/20/24 1059
MFL-AM02-112024-AB	DL264079	6738.166	11/20/24 1119
MFL-AM03-112024-AB	DL264090	7225.950	11/20/24 1252
MFL-AM07-112024-AB	DL264101	7253.424	11/20/24 1314
MFL-FB01-112024-AB	DL264092	0	11/20/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/21/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/03/2024 and Shanna Vasser 12/03/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/18/2024 – 11/20/2024
Report No: 42424238

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

December 03, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 11/25/24 11:14.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-111424-HM	4112522-01	Air	11/14/24 23:59	11/25/24 11:14
MFL-AM02-111424-HM	4112522-02	Air	11/14/24 23:59	11/25/24 11:14
MFL-AM03-111424-HM	4112522-03	Air	11/14/24 23:59	11/25/24 11:14
MFL-AM07-111424-HM	4112522-04	Air	11/14/24 23:59	11/25/24 11:14
MFL-FB01-111424-HM	4112522-05	Air	11/14/24 00:00	11/25/24 11:14
MFL-AM05-111524-HM	4112522-06	Air	11/15/24 23:59	11/25/24 11:14
MFL-AM02-111524-HM	4112522-07	Air	11/15/24 23:59	11/25/24 11:14
MFL-AM03-111524-HM	4112522-08	Air	11/15/24 23:59	11/25/24 11:14
MFL-AM07-111524-HM	4112522-09	Air	11/15/24 23:59	11/25/24 11:14
MFL-AM05-111624-HM	4112522-10	Air	11/16/24 23:59	11/25/24 11:14
MFL-AM02-111624-HM	4112522-11	Air	11/16/24 23:59	11/25/24 11:14
MFL-AM03-111624-HM	4112522-12	Air	11/16/24 23:59	11/25/24 11:14
MFL-AM07-111624-HM	4112522-13	Air	11/16/24 23:59	11/25/24 11:14
MFL-FB01-111624-HM	4112522-14	Air	11/16/24 00:00	11/25/24 11:14
MFL-AM05-111724-HM	4112522-15	Air	11/17/24 23:59	11/25/24 11:14
MFL-AM02-111724-HM	4112522-16	Air	11/17/24 23:59	11/25/24 11:14
MFL-AM03-111724-HM	4112522-17	Air	11/17/24 23:59	11/25/24 11:14
MFL-AM07-111724-HM	4112522-18	Air	11/17/24 23:59	11/25/24 11:14
MFL-AM05-111824-HM	4112522-19	Air	11/18/24 23:59	11/25/24 11:14
MFL-AM02-111824-HM	4112522-20	Air	11/18/24 23:59	11/25/24 11:14
MFL-AM03-111824-HM	4112522-21	Air	11/18/24 23:59	11/25/24 11:14

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-111824-HM	4112522-22	Air	11/18/24 23:59	11/25/24 11:14
MFL-FB01-111824-HM	4112522-23	Air	11/18/24 00:00	11/25/24 11:14
MFL-AM05-111924-HM	4112522-24	Air	11/19/24 23:59	11/25/24 11:14
MFL-AM02-111924-HM	4112522-25	Air	11/19/24 23:59	11/25/24 11:14
MFL-AM03-111924-HM	4112522-26	Air	11/19/24 23:59	11/25/24 11:14
MFL-AM07-111924-HM	4112522-27	Air	11/19/24 23:59	11/25/24 11:14
MFL-AM05-112024-HM	4112522-28	Air	11/20/24 23:59	11/25/24 11:14
MFL-AM02-112024-HM	4112522-29	Air	11/20/24 23:59	11/25/24 11:14
MFL-AM03-112024-HM	4112522-30	Air	11/20/24 23:59	11/25/24 11:14
MFL-AM07-112024-HM	4112522-31	Air	11/20/24 23:59	11/25/24 11:14
MFL-FB01-112024-HM	4112522-32	Air	11/20/24 00:00	11/25/24 11:14
MFL-LB01-111724-HM	4112522-33	Air	11/17/24 00:00	11/25/24 11:14

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111424-HM
Matrix: Air
Lab ID: 4112522-01
Sample Volume: 2002.863 m³
Filter ID:
Sampled: 11/14/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 20:55

Comments: Q8526021 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.395**		**0.00761**
Barium	**7440-39-3**	**6.59**		**0.869**
Beryllium	**7440-41-7**	**0.0287**		**0.00260**
Cadmium	7440-43-9	0.0306	U	0.0602
Chromium	**7440-47-3**	**4.88**		**1.80**
Cobalt	**7440-48-4**	**1.06**		**0.0354**
Copper	**7440-50-8**	**28.9**		**2.14**
Lead	**7439-92-1**	**0.869**		**0.174**
Manganese	**7439-96-5**	**28.7**		**1.54**
Molybdenum	**7439-98-7**	**1.33**		**0.292**
Nickel	**7440-02-0**	**3.35**		**0.530**
Selenium	**7782-49-2**	**0.174**		**0.00728**
Thallium	**7440-28-0**	**0.00186**		**4.78E-4**
Vanadium	**7440-62-2**	**3.10**		**0.0430**
Zinc	7440-66-6	16.8	U	62.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111424-HM
Matrix: Air
Lab ID: 4112522-02
Sample Volume: 2167.183 m³
Filter ID:
Sampled: 11/14/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 19:22

Comments: Q8526020 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.831**	QM-07	**0.00703**
Barium	**7440-39-3**	**9.50**		**0.803**
Beryllium	**7440-41-7**	**0.0413**		**0.00240**
Cadmium	**7440-43-9**	**0.139**		**0.0556**
Chromium	**7440-47-3**	**5.63**		**1.66**
Cobalt	**7440-48-4**	**1.46**		**0.0327**
Copper	**7440-50-8**	**32.7**	QM-07	**1.97**
Lead	**7439-92-1**	**3.05**		**0.161**
Manganese	**7439-96-5**	**39.0**	QM-07	**1.42**
Molybdenum	**7439-98-7**	**1.09**	PS-01, QM-07	**0.270**
Nickel	**7440-02-0**	**3.76**		**0.489**
Selenium	**7782-49-2**	**0.201**	SRD-01	**0.00673**
Thallium	**7440-28-0**	**0.00207**		**4.42E-4**
Vanadium	**7440-62-2**	**4.36**		**0.0397**
Zinc	7440-66-6	31.9	U	57.7

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111424-HM
Matrix: Air
Lab ID: 4112522-03
Sample Volume: 1901.604 m³
Filter ID:
Sampled: 11/14/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:06

Comments: Q8526019 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0588**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.149**		**0.00802**
Barium	**7440-39-3**	**2.81**		**0.915**
Beryllium	**7440-41-7**	**0.0206**		**0.00274**
Cadmium	7440-43-9	0.00972	U	0.0634
Chromium	**7440-47-3**	**3.02**		**1.89**
Cobalt	**7440-48-4**	**0.380**		**0.0373**
Copper	**7440-50-8**	**45.2**		**2.25**
Lead	**7439-92-1**	**0.435**		**0.183**
Manganese	**7439-96-5**	**8.79**		**1.62**
Molybdenum	**7439-98-7**	**2.17**		**0.307**
Nickel	**7440-02-0**	**1.47**		**0.558**
Selenium	**7782-49-2**	**0.131**		**0.00767**
Thallium	**7440-28-0**	**8.93E-4**		**5.04E-4**
Vanadium	**7440-62-2**	**0.961**		**0.0453**
Zinc	7440-66-6	10.2	U	65.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111424-HM
Matrix: Air
Lab ID: 4112522-04
Sample Volume: 1834.466 m³
Filter ID:
Sampled: 11/14/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:16

Comments: Q8526018 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.849**		**0.00831**
Barium	**7440-39-3**	**5.85**		**0.949**
Beryllium	**7440-41-7**	**0.0311**		**0.00284**
Cadmium	7440-43-9	0.0429	U	0.0657
Chromium	**7440-47-3**	**4.52**		**1.96**
Cobalt	**7440-48-4**	**1.08**		**0.0387**
Copper	**7440-50-8**	**14.6**		**2.33**
Lead	**7439-92-1**	**0.696**		**0.190**
Manganese	**7439-96-5**	**36.5**		**1.68**
Molybdenum	**7439-98-7**	**0.720**		**0.318**
Nickel	**7440-02-0**	**2.48**		**0.578**
Selenium	**7782-49-2**	**0.181**		**0.00795**
Thallium	**7440-28-0**	**0.00196**		**5.22E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0469**
Zinc	7440-66-6	20.6	U	68.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111424-HM
Matrix: Air
Lab ID: 4112522-05
Sample Volume: 2002.863 m³
Filter ID:
Sampled: 11/14/24 00:00
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:26

Comments: Q8526017 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0184	SL, U	0.0314
Arsenic	7440-38-2	0.00264	U	0.00761
Barium	**7440-39-3**	**0.940**	FB-01	**0.869**
Beryllium	7440-41-7	6.30E-4	U	0.00260
Cadmium	7440-43-9	5.99E-4	U	0.0602
Chromium	7440-47-3	0.751	U	1.80
Cobalt	7440-48-4	0.0105	U	0.0354
Copper	7440-50-8	0.253	U	2.14
Lead	7439-92-1	0.0329	U	0.174
Manganese	7439-96-5	0.177	U	1.54
Molybdenum	7439-98-7	0.122	U	0.292
Nickel	7440-02-0	0.345	U	0.530
Selenium	7782-49-2	0.00276	U	0.00728
Thallium	7440-28-0	8.94E-5	U	4.78E-4
Vanadium	7440-62-2	0.0159	U	0.0430
Zinc	7440-66-6	2.94	U	62.4

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111524-HM
Matrix: Air
Lab ID: 4112522-06
Sample Volume: 1987.816 m³
Filter ID:
Sampled: 11/15/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:37

Comments: Q8526015 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.295**		**0.00767**
Barium	**7440-39-3**	**5.48**		**0.876**
Beryllium	**7440-41-7**	**0.0179**		**0.00262**
Cadmium	7440-43-9	0.0149	U	0.0606
Chromium	**7440-47-3**	**3.52**		**1.81**
Cobalt	**7440-48-4**	**0.713**		**0.0357**
Copper	**7440-50-8**	**35.0**		**2.15**
Lead	**7439-92-1**	**0.577**		**0.175**
Manganese	**7439-96-5**	**17.7**		**1.55**
Molybdenum	**7439-98-7**	**1.92**		**0.294**
Nickel	**7440-02-0**	**2.27**		**0.534**
Selenium	**7782-49-2**	**0.217**		**0.00733**
Thallium	**7440-28-0**	**0.00115**		**4.82E-4**
Vanadium	**7440-62-2**	**2.03**		**0.0433**
Zinc	7440-66-6	14.2	U	62.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111524-HM
Matrix: Air
Lab ID: 4112522-07
Sample Volume: 2211.185 m³
Filter ID:
Sampled: 11/15/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:47

Comments: Q8526012 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.225**	SL	**0.0284**
Arsenic	**7440-38-2**	**0.531**		**0.00689**
Barium	**7440-39-3**	**8.04**		**0.787**
Beryllium	**7440-41-7**	**0.0286**		**0.00235**
Cadmium	**7440-43-9**	**0.149**		**0.0545**
Chromium	**7440-47-3**	**4.45**		**1.63**
Cobalt	**7440-48-4**	**0.996**		**0.0321**
Copper	**7440-50-8**	**43.9**		**1.94**
Lead	**7439-92-1**	**1.46**		**0.157**
Manganese	**7439-96-5**	**26.0**		**1.39**
Molybdenum	**7439-98-7**	**1.65**		**0.264**
Nickel	**7440-02-0**	**3.16**		**0.480**
Selenium	**7782-49-2**	**0.238**		**0.00659**
Thallium	**7440-28-0**	**0.00139**		**4.33E-4**
Vanadium	**7440-62-2**	**3.13**		**0.0389**
Zinc	7440-66-6	28.5	U	56.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111524-HM
Matrix: Air
Lab ID: 4112522-08
Sample Volume: 1906.381 m³
Filter ID:
Sampled: 11/15/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 21:58

Comments: Q8526011 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0876**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.117**		**0.00800**
Barium	**7440-39-3**	**2.74**		**0.913**
Beryllium	**7440-41-7**	**0.0178**		**0.00273**
Cadmium	7440-43-9	0.0111	U	0.0632
Chromium	**7440-47-3**	**2.15**		**1.89**
Cobalt	**7440-48-4**	**0.325**		**0.0372**
Copper	**7440-50-8**	**41.3**		**2.24**
Lead	**7439-92-1**	**0.341**		**0.183**
Manganese	**7439-96-5**	**7.59**		**1.61**
Molybdenum	**7439-98-7**	**2.37**		**0.306**
Nickel	**7440-02-0**	**1.19**		**0.556**
Selenium	**7782-49-2**	**0.209**		**0.00765**
Thallium	**7440-28-0**	**6.99E-4**		**5.03E-4**
Vanadium	**7440-62-2**	**0.971**		**0.0451**
Zinc	7440-66-6	9.56	U	65.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111524-HM
Matrix: Air
Lab ID: 4112522-09
Sample Volume: 1890.475 m³
Filter ID:
Sampled: 11/15/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 22:08

Comments: Q8526010 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0848**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.593**		**0.00806**
Barium	**7440-39-3**	**4.58**		**0.921**
Beryllium	**7440-41-7**	**0.0230**		**0.00275**
Cadmium	7440-43-9	0.0110	U	0.0638
Chromium	**7440-47-3**	**3.67**		**1.90**
Cobalt	**7440-48-4**	**0.808**		**0.0375**
Copper	**7440-50-8**	**18.2**		**2.26**
Lead	**7439-92-1**	**0.386**		**0.184**
Manganese	**7439-96-5**	**25.9**		**1.63**
Molybdenum	**7439-98-7**	**0.926**		**0.309**
Nickel	**7440-02-0**	**2.01**		**0.561**
Selenium	**7782-49-2**	**0.224**		**0.00771**
Thallium	**7440-28-0**	**0.00131**		**5.07E-4**
Vanadium	**7440-62-2**	**2.23**		**0.0455**
Zinc	7440-66-6	11.0	U	66.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111624-HM
Matrix: Air
Lab ID: 4112522-10
Sample Volume: 1982.801 m³
Filter ID:
Sampled: 11/16/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 22:18

Comments: Q8526009 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.165**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.193**		**0.00769**
Barium	**7440-39-3**	**5.24**		**0.878**
Beryllium	**7440-41-7**	**0.0141**		**0.00263**
Cadmium	7440-43-9	0.00940	U	0.0608
Chromium	**7440-47-3**	**2.38**		**1.81**
Cobalt	**7440-48-4**	**0.472**		**0.0358**
Copper	**7440-50-8**	**39.2**		**2.16**
Lead	**7439-92-1**	**0.435**		**0.176**
Manganese	**7439-96-5**	**13.4**		**1.55**
Molybdenum	**7439-98-7**	**2.07**		**0.295**
Nickel	**7440-02-0**	**1.40**		**0.535**
Selenium	**7782-49-2**	**0.250**		**0.00735**
Thallium	**7440-28-0**	**9.98E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0434**
Zinc	7440-66-6	16.5	U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111624-HM
Matrix: Air
Lab ID: 4112522-11
Sample Volume: 2199.956 m³
Filter ID:
Sampled: 11/16/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 22:29

Comments: Q8526007 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.290**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.855**		**0.00693**
Barium	**7440-39-3**	**7.71**		**0.791**
Beryllium	**7440-41-7**	**0.0212**		**0.00237**
Cadmium	7440-43-9	0.0507	U	0.0548
Chromium	**7440-47-3**	**3.15**		**1.63**
Cobalt	**7440-48-4**	**0.735**		**0.0322**
Copper	**7440-50-8**	**40.7**		**1.95**
Lead	**7439-92-1**	**1.52**		**0.158**
Manganese	**7439-96-5**	**21.2**		**1.40**
Molybdenum	**7439-98-7**	**1.83**		**0.266**
Nickel	**7440-02-0**	**1.99**		**0.482**
Selenium	**7782-49-2**	**0.264**		**0.00663**
Thallium	**7440-28-0**	**0.00137**		**4.36E-4**
Vanadium	**7440-62-2**	**2.27**		**0.0391**
Zinc	7440-66-6	20.3	U	56.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111624-HM
Matrix: Air
Lab ID: 4112522-12
Sample Volume: 1807.295 m³
Filter ID:
Sampled: 11/16/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 23:10

Comments: Q8526006 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.0845**		**0.00844**
Barium	**7440-39-3**	**2.35**		**0.963**
Beryllium	**7440-41-7**	**0.0104**		**0.00288**
Cadmium	7440-43-9	0.00464	U	0.0667
Chromium	7440-47-3	1.58	U	1.99
Cobalt	**7440-48-4**	**0.224**		**0.0393**
Copper	**7440-50-8**	**24.8**		**2.37**
Lead	7439-92-1	0.181	U	0.193
Manganese	**7439-96-5**	**6.20**		**1.70**
Molybdenum	**7439-98-7**	**1.52**		**0.323**
Nickel	**7440-02-0**	**0.846**		**0.587**
Selenium	**7782-49-2**	**0.178**		**0.00807**
Thallium	**7440-28-0**	**5.53E-4**		**5.30E-4**
Vanadium	**7440-62-2**	**0.663**		**0.0476**
Zinc	7440-66-6	6.77	U	69.1

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111624-HM
Matrix: Air
Lab ID: 4112522-13
Sample Volume: 1933.131 m³
Filter ID:
Sampled: 11/16/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 23:31

Comments: Q8526005 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0798**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.189**		**0.00789**
Barium	**7440-39-3**	**3.24**		**0.901**
Beryllium	**7440-41-7**	**0.0140**		**0.00269**
Cadmium	7440-43-9	0.00728	U	0.0624
Chromium	**7440-47-3**	**2.78**		**1.86**
Cobalt	**7440-48-4**	**0.368**		**0.0367**
Copper	**7440-50-8**	**22.2**		**2.21**
Lead	**7439-92-1**	**0.251**		**0.180**
Manganese	**7439-96-5**	**11.5**		**1.59**
Molybdenum	**7439-98-7**	**1.10**		**0.302**
Nickel	**7440-02-0**	**1.32**		**0.549**
Selenium	**7782-49-2**	**0.225**		**0.00754**
Thallium	**7440-28-0**	**8.20E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0445**
Zinc	7440-66-6	7.35	U	64.6

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111624-HM
Matrix: Air
Lab ID: 4112522-14
Sample Volume: 1982.801 m³
Filter ID:
Sampled: 11/16/24 00:00
Received: 11/25/24 11:14
Analysis Date: 11/26/24 23:41

Comments: Q8526002 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0268	SL, U	0.0317
Arsenic	7440-38-2	0.00523	U	0.00769
Barium	**7440-39-3**	**0.983**	FB-01	**0.878**
Beryllium	7440-41-7	8.20E-4	U	0.00263
Cadmium	7440-43-9	0.00352	U	0.0608
Chromium	7440-47-3	0.949	U	1.81
Cobalt	7440-48-4	0.0153	U	0.0358
Copper	7440-50-8	1.38	U	2.16
Lead	7439-92-1	0.0589	U	0.176
Manganese	7439-96-5	0.281	U	1.55
Molybdenum	7439-98-7	0.167	U	0.295
Nickel	**7440-02-0**	**0.710**	FB-01	**0.535**
Selenium	7782-49-2	0.00383	U	0.00735
Thallium	7440-28-0	1.10E-4	U	4.83E-4
Vanadium	7440-62-2	0.0273	U	0.0434
Zinc	7440-66-6	5.74	U	63.0

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111724-HM
Matrix: Air
Lab ID: 4112522-15
Sample Volume: 2004.121 m³
Filter ID:
Sampled: 11/17/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 23:52

Comments: Q8526004 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.426**		**0.00761**
Barium	**7440-39-3**	**6.35**		**0.869**
Beryllium	**7440-41-7**	**0.0288**		**0.00260**
Cadmium	7440-43-9	0.0514	U	0.0602
Chromium	**7440-47-3**	**4.41**		**1.79**
Cobalt	**7440-48-4**	**0.988**		**0.0354**
Copper	**7440-50-8**	**45.8**		**2.14**
Lead	**7439-92-1**	**1.23**		**0.174**
Manganese	**7439-96-5**	**27.1**		**1.53**
Molybdenum	**7439-98-7**	**2.23**		**0.291**
Nickel	**7440-02-0**	**2.49**		**0.529**
Selenium	**7782-49-2**	**0.232**		**0.00727**
Thallium	**7440-28-0**	**0.00194**		**4.78E-4**
Vanadium	**7440-62-2**	**2.75**		**0.0429**
Zinc	7440-66-6	20.1	U	62.3

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111724-HM
Matrix: Air
Lab ID: 4112522-16
Sample Volume: 2159.788 m³
Filter ID:
Sampled: 11/17/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 00:02

Comments: Q8526001 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.167**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.690**		**0.00706**
Barium	**7440-39-3**	**7.68**		**0.806**
Beryllium	**7440-41-7**	**0.0390**		**0.00241**
Cadmium	**7440-43-9**	**0.606**		**0.0558**
Chromium	**7440-47-3**	**5.49**		**1.66**
Cobalt	**7440-48-4**	**1.24**		**0.0328**
Copper	**7440-50-8**	**43.4**		**1.98**
Lead	**7439-92-1**	**2.12**		**0.161**
Manganese	**7439-96-5**	**34.3**		**1.42**
Molybdenum	**7439-98-7**	**1.17**		**0.270**
Nickel	**7440-02-0**	**3.10**		**0.491**
Selenium	**7782-49-2**	**0.243**		**0.00675**
Thallium	**7440-28-0**	**0.00214**		**4.44E-4**
Vanadium	**7440-62-2**	**3.76**		**0.0399**
Zinc	7440-66-6	28.6	U	57.9

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111724-HM
Matrix: Air
Lab ID: 4112522-17
Sample Volume: 1853.752 m³
Filter ID:
Sampled: 11/17/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 00:13

Comments: Q8537049 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0416**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.322**	LJ, QX	**0.00822**
Barium	**7440-39-3**	**6.38**		**0.939**
Beryllium	**7440-41-7**	**0.164**		**0.00281**
Cadmium	7440-43-9	0.0187	LJ, QX, U	0.0650
Chromium	**7440-47-3**	**9.32**		**1.94**
Cobalt	**7440-48-4**	**2.02**		**0.0383**
Copper	**7440-50-8**	**39.5**		**2.31**
Lead	**7439-92-1**	**0.793**	LJ, QX	**0.188**
Manganese	**7439-96-5**	**42.1**		**1.66**
Molybdenum	**7439-98-7**	**1.22**	LJ, QX	**0.315**
Nickel	**7440-02-0**	**5.17**		**0.572**
Selenium	**7782-49-2**	**0.279**	LJ, QX	**0.00786**
Thallium	**7440-28-0**	**0.00241**	LJ, QX	**5.17E-4**
Vanadium	**7440-62-2**	**5.24**		**0.0464**
Zinc	7440-66-6	13.5	U	67.4

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111724-HM
Matrix: Air
Lab ID: 4112522-18
Sample Volume: 1914.717 m³
Filter ID:
Sampled: 11/17/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 00:23

Comments: Q8537048 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.489**		**0.00796**
Barium	**7440-39-3**	**4.79**		**0.909**
Beryllium	**7440-41-7**	**0.0395**		**0.00272**
Cadmium	**7440-43-9**	**0.416**		**0.0630**
Chromium	**7440-47-3**	**6.87**		**1.88**
Cobalt	**7440-48-4**	**1.38**		**0.0370**
Copper	**7440-50-8**	**28.1**		**2.23**
Lead	**7439-92-1**	**1.11**		**0.182**
Manganese	**7439-96-5**	**34.8**		**1.61**
Molybdenum	**7439-98-7**	**0.808**		**0.305**
Nickel	**7440-02-0**	**3.47**		**0.554**
Selenium	**7782-49-2**	**0.235**		**0.00761**
Thallium	**7440-28-0**	**0.00186**		**5.00E-4**
Vanadium	**7440-62-2**	**3.43**		**0.0450**
Zinc	7440-66-6	18.9	U	65.3

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111824-HM
Matrix: Air
Lab ID: 4112522-19
Sample Volume: 1976.21 m³
Filter ID:
Sampled: 11/18/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 00:33

Comments: Q8537047 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.241**		**0.00771**
Barium	**7440-39-3**	**3.96**		**0.881**
Beryllium	**7440-41-7**	**0.0143**		**0.00263**
Cadmium	7440-43-9	0.0119	U	0.0610
Chromium	**7440-47-3**	**5.62**		**1.82**
Cobalt	**7440-48-4**	**0.423**		**0.0359**
Copper	**7440-50-8**	**47.5**		**2.17**
Lead	**7439-92-1**	**0.604**		**0.176**
Manganese	**7439-96-5**	**13.2**		**1.56**
Molybdenum	**7439-98-7**	**2.37**		**0.296**
Nickel	**7440-02-0**	**1.46**		**0.537**
Selenium	**7782-49-2**	**0.176**		**0.00738**
Thallium	**7440-28-0**	**0.00119**		**4.85E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0436**
Zinc	7440-66-6	11.4	U	63.2

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111824-HM
Matrix: Air
Lab ID: 4112522-20
Sample Volume: 2157.009 m³
Filter ID:
Sampled: 11/18/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 00:44

Comments: Q8537044 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.244**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.248**		**0.00707**
Barium	**7440-39-3**	**4.54**		**0.807**
Beryllium	**7440-41-7**	**0.0129**		**0.00241**
Cadmium	7440-43-9	0.0178	U	0.0559
Chromium	**7440-47-3**	**2.21**		**1.67**
Cobalt	**7440-48-4**	**0.438**		**0.0329**
Copper	**7440-50-8**	**39.3**		**1.98**
Lead	**7439-92-1**	**2.29**		**0.161**
Manganese	**7439-96-5**	**10.9**		**1.43**
Molybdenum	**7439-98-7**	**1.72**		**0.271**
Nickel	**7440-02-0**	**1.39**		**0.492**
Selenium	**7782-49-2**	**0.179**		**0.00676**
Thallium	**7440-28-0**	**8.74E-4**		**4.44E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0399**
Zinc	7440-66-6	13.2	U	57.9

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111824-HM
Matrix: Air
Lab ID: 4112522-21
Sample Volume: 1951.213 m³
Filter ID:
Sampled: 11/18/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 01:25

Comments: Q8537043 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0556**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.103**		**0.00781**
Barium	**7440-39-3**	**2.14**		**0.892**
Beryllium	**7440-41-7**	**0.0163**		**0.00267**
Cadmium	7440-43-9	0.0160	U	0.0618
Chromium	**7440-47-3**	**2.71**		**1.84**
Cobalt	**7440-48-4**	**0.286**		**0.0364**
Copper	**7440-50-8**	**48.2**		**2.19**
Lead	**7439-92-1**	**0.261**		**0.178**
Manganese	**7439-96-5**	**7.10**		**1.58**
Molybdenum	**7439-98-7**	**2.14**		**0.299**
Nickel	**7440-02-0**	**1.48**		**0.544**
Selenium	**7782-49-2**	**0.168**		**0.00747**
Thallium	**7440-28-0**	**8.65E-4**		**4.91E-4**
Vanadium	**7440-62-2**	**0.767**		**0.0441**
Zinc	7440-66-6	8.48	U	64.0

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111824-HM
Matrix: Air
Lab ID: 4112522-22
Sample Volume: 1916.323 m³
Filter ID:
Sampled: 11/18/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 01:36

Comments: Q8537042 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0692**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.327**		**0.00796**
Barium	**7440-39-3**	**3.07**		**0.908**
Beryllium	**7440-41-7**	**0.0174**		**0.00272**
Cadmium	7440-43-9	0.0116	U	0.0629
Chromium	**7440-47-3**	**2.74**		**1.88**
Cobalt	**7440-48-4**	**0.560**		**0.0370**
Copper	**7440-50-8**	**24.3**		**2.23**
Lead	**7439-92-1**	**0.293**		**0.182**
Manganese	**7439-96-5**	**17.5**		**1.60**
Molybdenum	**7439-98-7**	**1.00**		**0.305**
Nickel	**7440-02-0**	**1.46**		**0.554**
Selenium	**7782-49-2**	**0.177**		**0.00761**
Thallium	**7440-28-0**	**0.00120**		**5.00E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0449**
Zinc	7440-66-6	7.63	U	65.2

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111824-HM
Matrix: Air
Lab ID: 4112522-23
Sample Volume: 1976.21 m³
Filter ID:
Sampled: 11/18/24 00:00
Received: 11/25/24 11:14
Analysis Date: 11/27/24 01:46

Comments: Q8537034 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0199	SL, U	0.0318
Arsenic	7440-38-2	0.00369	U	0.00771
Barium	7440-39-3	0.815	U	0.881
Beryllium	7440-41-7	7.97E-4	U	0.00263
Cadmium	7440-43-9	5.72E-4	U	0.0610
Chromium	7440-47-3	0.701	U	1.82
Cobalt	7440-48-4	0.0113	U	0.0359
Copper	7440-50-8	0.456	U	2.17
Lead	7439-92-1	0.0231	U	0.176
Manganese	7439-96-5	0.213	U	1.56
Molybdenum	7439-98-7	0.132	U	0.296
Nickel	7440-02-0	0.341	U	0.537
Selenium	7782-49-2	0.00462	U	0.00738
Thallium	7440-28-0	7.69E-5	U	4.85E-4
Vanadium	7440-62-2	0.0187	U	0.0436
Zinc	7440-66-6	3.26	U	63.2

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111924-HM
Matrix: Air
Lab ID: 4112522-24
Sample Volume: 1930.098 m³
Filter ID:
Sampled: 11/19/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/26/24 17:07

Comments: Q8537038 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.194**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.550**		**0.00790**
Barium	**7440-39-3**	**6.30**		**0.902**
Beryllium	**7440-41-7**	**0.0198**		**0.00270**
Cadmium	7440-43-9	0.0155	U	0.0625
Chromium	**7440-47-3**	**3.54**		**1.86**
Cobalt	**7440-48-4**	**0.774**		**0.0368**
Copper	**7440-50-8**	**48.7**		**2.22**
Lead	**7439-92-1**	**0.942**		**0.180**
Manganese	**7439-96-5**	**18.5**		**1.59**
Molybdenum	**7439-98-7**	**2.01**		**0.303**
Nickel	**7440-02-0**	**2.37**		**0.550**
Selenium	**7782-49-2**	**0.228**		**0.00755**
Thallium	**7440-28-0**	**0.00180**		**4.97E-4**
Vanadium	**7440-62-2**	**2.43**		**0.0446**
Zinc	7440-66-6	18.9	U	64.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111924-HM
Matrix: Air
Lab ID: 4112522-25
Sample Volume: 2123.548 m³
Filter ID:
Sampled: 11/19/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 01:57

Comments: Q8537037 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.307**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.381**		**0.00718**
Barium	**7440-39-3**	**7.76**		**0.820**
Beryllium	**7440-41-7**	**0.0243**		**0.00245**
Cadmium	7440-43-9	0.0125	U	0.0568
Chromium	**7440-47-3**	**4.32**		**1.69**
Cobalt	**7440-48-4**	**0.911**		**0.0334**
Copper	**7440-50-8**	**42.2**		**2.02**
Lead	**7439-92-1**	**0.942**		**0.164**
Manganese	**7439-96-5**	**22.8**		**1.45**
Molybdenum	**7439-98-7**	**1.59**		**0.275**
Nickel	**7440-02-0**	**2.87**		**0.500**
Selenium	**7782-49-2**	**0.222**		**0.00686**
Thallium	**7440-28-0**	**0.00174**		**4.51E-4**
Vanadium	**7440-62-2**	**3.07**		**0.0405**
Zinc	7440-66-6	17.3	U	58.8

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111924-HM
Matrix: Air
Lab ID: 4112522-26
Sample Volume: 1797.531 m³
Filter ID:
Sampled: 11/19/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 02:07

Comments: Q8537035 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0795**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.133**		**0.00848**
Barium	**7440-39-3**	**2.79**		**0.968**
Beryllium	**7440-41-7**	**0.0168**		**0.00290**
Cadmium	7440-43-9	0.00876	U	0.0671
Chromium	**7440-47-3**	**2.41**		**2.00**
Cobalt	**7440-48-4**	**0.323**		**0.0395**
Copper	**7440-50-8**	**58.1**		**2.38**
Lead	**7439-92-1**	**0.320**		**0.194**
Manganese	**7439-96-5**	**8.29**		**1.71**
Molybdenum	**7439-98-7**	**2.47**		**0.325**
Nickel	**7440-02-0**	**1.43**		**0.590**
Selenium	**7782-49-2**	**0.198**		**0.00811**
Thallium	**7440-28-0**	**0.00119**		**5.33E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0479**
Zinc	7440-66-6	7.39	U	69.5

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111924-HM
Matrix: Air
Lab ID: 4112522-27
Sample Volume: 1820.527 m³
Filter ID:
Sampled: 11/19/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 02:17

Comments: Q8537033 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.429**		**0.00837**
Barium	**7440-39-3**	**3.91**		**0.956**
Beryllium	**7440-41-7**	**0.0176**		**0.00286**
Cadmium	7440-43-9	0.0119	U	0.0662
Chromium	**7440-47-3**	**3.66**		**1.98**
Cobalt	**7440-48-4**	**0.584**		**0.0390**
Copper	**7440-50-8**	**29.1**		**2.35**
Lead	**7439-92-1**	**0.342**		**0.191**
Manganese	**7439-96-5**	**18.8**		**1.69**
Molybdenum	**7439-98-7**	**1.28**		**0.321**
Nickel	**7440-02-0**	**2.25**		**0.583**
Selenium	**7782-49-2**	**0.208**		**0.00801**
Thallium	**7440-28-0**	**0.00151**		**5.26E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0473**
Zinc	7440-66-6	10.4	U	68.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112024-HM
Matrix: Air
Lab ID: 4112522-28
Sample Volume: 1945.487 m³
Filter ID:
Sampled: 11/20/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 02:28

Comments: Q8537030 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.148**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.478**		**0.00784**
Barium	**7440-39-3**	**4.73**		**0.895**
Beryllium	**7440-41-7**	**0.0146**		**0.00268**
Cadmium	7440-43-9	0.0225	U	0.0620
Chromium	**7440-47-3**	**2.54**		**1.85**
Cobalt	**7440-48-4**	**0.465**		**0.0365**
Copper	**7440-50-8**	**42.3**		**2.20**
Lead	**7439-92-1**	**1.03**		**0.179**
Manganese	**7439-96-5**	**13.3**		**1.58**
Molybdenum	**7439-98-7**	**1.81**		**0.300**
Nickel	**7440-02-0**	**1.72**		**0.545**
Selenium	**7782-49-2**	**0.181**		**0.00749**
Thallium	**7440-28-0**	**0.00144**		**4.93E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0442**
Zinc	7440-66-6	20.4	U	64.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112024-HM
Matrix: Air
Lab ID: 4112522-29
Sample Volume: 2166.91 m³
Filter ID:
Sampled: 11/20/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 02:38

Comments: Q8537029 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.184**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.299**		**0.00704**
Barium	**7440-39-3**	**6.28**		**0.803**
Beryllium	**7440-41-7**	**0.0214**		**0.00240**
Cadmium	7440-43-9	0.0107	U	0.0556
Chromium	**7440-47-3**	**2.93**		**1.66**
Cobalt	**7440-48-4**	**0.703**		**0.0327**
Copper	**7440-50-8**	**39.8**		**1.97**
Lead	**7439-92-1**	**0.857**		**0.161**
Manganese	**7439-96-5**	**20.3**		**1.42**
Molybdenum	**7439-98-7**	**1.47**		**0.270**
Nickel	**7440-02-0**	**1.95**		**0.490**
Selenium	**7782-49-2**	**0.197**		**0.00673**
Thallium	**7440-28-0**	**0.00135**		**4.42E-4**
Vanadium	**7440-62-2**	**2.50**		**0.0397**
Zinc	7440-66-6	16.4	U	57.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112024-HM
Matrix: Air
Lab ID: 4112522-30
Sample Volume: 1956.118 m³
Filter ID:
Sampled: 11/20/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 02:49

Comments: Q8537027 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0651**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.152**		**0.00779**
Barium	**7440-39-3**	**2.80**		**0.890**
Beryllium	**7440-41-7**	**0.0219**		**0.00266**
Cadmium	7440-43-9	0.00865	U	0.0616
Chromium	**7440-47-3**	**2.75**		**1.84**
Cobalt	**7440-48-4**	**0.396**		**0.0363**
Copper	**7440-50-8**	**57.0**		**2.19**
Lead	**7439-92-1**	**0.344**		**0.178**
Manganese	**7439-96-5**	**10.4**		**1.57**
Molybdenum	**7439-98-7**	**2.34**		**0.299**
Nickel	**7440-02-0**	**1.64**		**0.542**
Selenium	**7782-49-2**	**0.172**		**0.00745**
Thallium	**7440-28-0**	**0.00107**		**4.90E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0440**
Zinc	7440-66-6	7.91	U	63.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112024-HM
Matrix: Air
Lab ID: 4112522-31
Sample Volume: 1822.813 m³
Filter ID:
Sampled: 11/20/24 23:59
Received: 11/25/24 11:14
Analysis Date: 11/27/24 03:30

Comments: Q8537024 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0691**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.600**		**0.00836**
Barium	**7440-39-3**	**4.27**		**0.955**
Beryllium	**7440-41-7**	**0.0234**		**0.00286**
Cadmium	7440-43-9	0.0115	U	0.0661
Chromium	**7440-47-3**	**3.20**		**1.97**
Cobalt	**7440-48-4**	**0.692**		**0.0389**
Copper	**7440-50-8**	**28.0**		**2.35**
Lead	**7439-92-1**	**0.420**		**0.191**
Manganese	**7439-96-5**	**24.2**		**1.69**
Molybdenum	**7439-98-7**	**1.14**		**0.320**
Nickel	**7440-02-0**	**1.81**		**0.582**
Selenium	**7782-49-2**	**0.206**		**0.00800**
Thallium	**7440-28-0**	**0.00166**		**5.26E-4**
Vanadium	**7440-62-2**	**2.07**		**0.0472**
Zinc	7440-66-6	10.3	U	68.5

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CERTIFICATE OF ANALYSIS

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-112024-HM
Matrix: Air
Lab ID: 4112522-32
Sample Volume: 1945.487 m³
Filter ID:
Sampled: 11/20/24 00:00
Received: 11/25/24 11:14
Analysis Date: 11/27/24 03:51

Comments: Q8537018 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0211	SL, U	0.0323
Arsenic	7440-38-2	0.00572	U	0.00784
Barium	7440-39-3	0.793	U	0.895
Beryllium	7440-41-7	5.65E-4	U	0.00268
Cadmium	7440-43-9	0.00113	U	0.0620
Chromium	7440-47-3	0.739	U	1.85
Cobalt	7440-48-4	0.0119	U	0.0365
Copper	7440-50-8	1.09	U	2.20
Lead	7439-92-1	0.0554	U	0.179
Manganese	7439-96-5	0.233	U	1.58
Molybdenum	7439-98-7	0.134	U	0.300
Nickel	7440-02-0	0.387	U	0.545
Selenium	7782-49-2	0.00563	U	0.00749
Thallium	7440-28-0	8.02E-5	U	4.93E-4
Vanadium	7440-62-2	0.0199	U	0.0442
Zinc	7440-66-6	3.02	U	64.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-111724-HM
Matrix: Air
Lab ID: 4112522-33
Sample Volume: 2004.121 m³
Filter ID:
Sampled: 11/17/24 00:00
Received: 11/25/24 11:14
Analysis Date: 11/27/24 04:01

Comments: Q8537045 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0229	SL, U	0.0313
Arsenic	7440-38-2	0.00476	U	0.00761
Barium	**7440-39-3**	**1.67**		**0.869**
Beryllium	7440-41-7	7.51E-4	U	0.00260
Cadmium	7440-43-9	8.62E-4	U	0.0602
Chromium	7440-47-3	0.799	U	1.79
Cobalt	7440-48-4	0.0144	U	0.0354
Copper	**7440-50-8**	**2.31**		**2.14**
Lead	7439-92-1	0.0806	U	0.174
Manganese	7439-96-5	0.267	U	1.53
Molybdenum	7439-98-7	0.146	U	0.291
Nickel	**7440-02-0**	**0.601**		**0.529**
Selenium	7782-49-2	0.00487	U	0.00727
Thallium	7440-28-0	9.20E-5	U	4.78E-4
Vanadium	7440-62-2	0.0280	U	0.0429
Zinc	7440-66-6	6.89	U	62.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Blank (2411074-CCB1)				Prepared & Analyzed: 11/26/24						
Antimony	0.741		ng/l							
Arsenic	-0.181		ng/l							U
Barium	0.224		ng/l							
Beryllium	-0.200		ng/l							U
Cadmium	0.00578		ng/l							
Chromium	1.44		ng/l							
Cobalt	-0.0199		ng/l							U
Copper	39.4		ng/l							
Lead	15.0		ng/l							
Manganese	1.64		ng/l							
Molybdenum	2.74		ng/l							
Nickel	-0.0681		ng/l							U
Selenium	-4.89		ng/l							U
Thallium	0.879		ng/l							
Vanadium	-18.6		ng/l							U
Zinc	-4.22		ng/l							U
Calibration Blank (2411074-CCB2)				Prepared & Analyzed: 11/26/24						
Antimony	0.0550		ng/l							
Arsenic	-2.06		ng/l							U
Barium	0.429		ng/l							
Beryllium	-0.130		ng/l							U
Cadmium	0.0692		ng/l							
Chromium	0.816		ng/l							
Cobalt	-0.0773		ng/l							U
Copper	15.0		ng/l							
Lead	5.43		ng/l							
Manganese	1.20		ng/l							
Molybdenum	0.846		ng/l							
Nickel	0.0729		ng/l							
Selenium	6.07		ng/l							
Thallium	0.730		ng/l							
Vanadium	-22.0		ng/l							U
Zinc	-8.87		ng/l							U
Calibration Blank (2411074-CCB3)				Prepared & Analyzed: 11/26/24						
Antimony	0.187		ng/l							
Arsenic	-0.832		ng/l							U
Barium	0.858		ng/l							
Beryllium	-0.226		ng/l							U

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Blank (2411074-CCB3) Contin				Prepared & Analyzed: 11/26/24						
Cadmium	0.0326		ng/l							
Chromium	0.769		ng/l							
Cobalt	0.0154		ng/l							
Copper	9.45		ng/l							
Lead	5.64		ng/l							
Manganese	1.14		ng/l							
Molybdenum	0.937		ng/l							
Nickel	0.0867		ng/l							
Selenium	11.7		ng/l							
Thallium	0.729		ng/l							
Vanadium	-22.0		ng/l							U
Zinc	-19.9		ng/l							U
Calibration Blank (2411074-CCB4)				Prepared & Analyzed: 11/26/24						
Antimony	0.262		ng/l							
Arsenic	-0.0960		ng/l							U
Barium	-0.195		ng/l							U
Beryllium	-0.0665		ng/l							U
Cadmium	0.00727		ng/l							
Chromium	1.13		ng/l							
Cobalt	0.172		ng/l							
Copper	9.30		ng/l							
Lead	3.71		ng/l							
Manganese	0.687		ng/l							
Molybdenum	1.18		ng/l							
Nickel	0.196		ng/l							
Selenium	0.945		ng/l							
Thallium	0.616		ng/l							
Vanadium	-22.8		ng/l							U
Zinc	-12.7		ng/l							U
Calibration Blank (2411074-CCB5)				Prepared: 11/26/24 Analyzed: 11/27/24						
Antimony	0.226		ng/l							
Arsenic	-1.52		ng/l							U
Barium	0.206		ng/l							
Beryllium	-0.133		ng/l							U
Cadmium	0.0346		ng/l							
Chromium	1.34		ng/l							
Cobalt	-0.0373		ng/l							U
Copper	7.04		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Blank (2411074-CCB5) Contin				Prepared: 11/26/24 Analyzed: 11/27/24						
Lead	3.87		ng/l							
Manganese	1.14		ng/l							
Molybdenum	1.36		ng/l							
Nickel	0.0787		ng/l							
Selenium	20.4		ng/l							
Thallium	0.709		ng/l							
Vanadium	-22.9		ng/l							U
Zinc	-12.9		ng/l							U
Calibration Blank (2411074-CCB6)				Prepared: 11/26/24 Analyzed: 11/27/24						
Antimony	0.252		ng/l							
Arsenic	-0.204		ng/l							U
Barium	0.170		ng/l							
Beryllium	-0.260		ng/l							U
Cadmium	0.0480		ng/l							
Chromium	1.08		ng/l							
Cobalt	0.0737		ng/l							
Copper	8.38		ng/l							
Lead	3.88		ng/l							
Manganese	1.20		ng/l							
Molybdenum	0.702		ng/l							
Nickel	-0.0228		ng/l							U
Selenium	9.62		ng/l							
Thallium	0.661		ng/l							
Vanadium	-26.4		ng/l							U
Zinc	-1.23		ng/l							U
Calibration Blank (2411074-CCB7)				Prepared: 11/26/24 Analyzed: 11/27/24						
Antimony	0.339		ng/l							
Arsenic	0.204		ng/l							
Barium	0.480		ng/l							
Beryllium	-0.195		ng/l							U
Cadmium	-0.0184		ng/l							U
Chromium	0.891		ng/l							
Cobalt	0.0546		ng/l							
Copper	8.83		ng/l							
Lead	4.19		ng/l							
Manganese	0.816		ng/l							
Molybdenum	1.41		ng/l							
Nickel	0.0669		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Blank (2411074-CCB7) Contin				Prepared: 11/26/24 Analyzed: 11/27/24						
Selenium	11.3		ng/l							
Thallium	0.779		ng/l							
Vanadium	-25.9		ng/l							U
Zinc	-13.5		ng/l							U
Calibration Check (2411074-CCV1)				Prepared & Analyzed: 11/26/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	47400		ng/l	50000		94.9	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.9	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2411074-CCV2)				Prepared & Analyzed: 11/26/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	47100		ng/l	50000		94.3	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Check (2411074-CCV3)				Prepared & Analyzed: 11/26/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	47500		ng/l	50000		95.0	90-110			
Nickel	118000		ng/l	120000		98.2	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2411074-CCV4)				Prepared & Analyzed: 11/26/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	49600		ng/l	50000		99.3	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	47000		ng/l	50000		94.0	90-110			
Nickel	116000		ng/l	120000		96.9	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Calibration Check (2411074-CCV5)				Prepared: 11/26/24 Analyzed: 11/27/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Check (2411074-CCV5) Contin					Prepared: 11/26/24 Analyzed: 11/27/24					
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	47400		ng/l	50000		94.8	90-110			
Nickel	117000		ng/l	120000		97.2	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2411074-CCV6)					Prepared: 11/26/24 Analyzed: 11/27/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	46900		ng/l	50000		93.9	90-110			
Nickel	115000		ng/l	120000		95.8	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2411074-CCV7)					Prepared: 11/26/24 Analyzed: 11/27/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	47800		ng/l	50000		95.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Calibration Check (2411074-CCV7) Contin					Prepared: 11/26/24 Analyzed: 11/27/24					
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	46900		ng/l	50000		93.7	90-110			
Nickel	115000		ng/l	120000		95.9	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	506000		ng/l	500000		101	90-110			
High Cal Check (2411074-HCV1)					Prepared & Analyzed: 11/26/24					
Antimony	40200		ng/l	40000		100	95-105			
Arsenic	39700		ng/l	40000		99.1	95-105			
Barium	398000		ng/l	400000		99.5	95-105			
Beryllium	9930		ng/l	10000		99.3	95-105			
Cadmium	39900		ng/l	40000		99.7	95-105			
Chromium	470000		ng/l	480000		97.9	95-105			
Cobalt	97800		ng/l	100000		97.8	95-105			
Copper	3.88E6		ng/l	4.0000E6		96.9	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	985000		ng/l	1.0000E6		98.5	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	235000		ng/l	240000		98.0	95-105			
Selenium	39800		ng/l	40000		99.5	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39500		ng/l	40000		98.8	95-105			
Zinc	984000		ng/l	1.0000E6		98.4	95-105			
Initial Cal Blank (2411074-ICB1)					Prepared & Analyzed: 11/26/24					
Antimony	0.831		ng/l							
Arsenic	0.212		ng/l							
Barium	-0.0464		ng/l							U
Beryllium	-0.0776		ng/l							U
Cadmium	0.0554		ng/l							
Chromium	0.950		ng/l							
Cobalt	0.125		ng/l							
Copper	37.0		ng/l							
Lead	23.9		ng/l							
Manganese	2.75		ng/l							
Molybdenum	0.984		ng/l							
Nickel	0.530		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Initial Cal Blank (2411074-ICB1) Continu				Prepared & Analyzed: 11/26/24						
Selenium	2.80		ng/l							
Thallium	0.629		ng/l							
Vanadium	-17.1		ng/l							U
Zinc	2.42		ng/l							
Initial Cal Check (2411074-ICV1)				Prepared & Analyzed: 11/26/24						
Antimony	19500		ng/l	20000		97.6	90-110			
Arsenic	18900		ng/l	20000		94.6	90-110			
Barium	186000		ng/l	200000		92.9	90-110			
Beryllium	4950		ng/l	5000.0		98.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	233000		ng/l	240000		97.1	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	45900		ng/l	50000		91.8	90-110			
Nickel	119000		ng/l	120000		98.8	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Interference Check A (2411074-IFA1)				Prepared & Analyzed: 11/26/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	319000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411074 - B4K2605										
Interference Check B (2411074-IFB1)				Prepared & Analyzed: 11/26/24						
Antimony	18300		ng/l	20000		91.3	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	170000		ng/l	200000		84.8	80-120			
Beryllium	4490		ng/l	5000.0		89.8	80-120			
Cadmium	18100		ng/l	20000		90.7	80-120			
Chromium	243000		ng/l	240000		101	80-120			
Cobalt	47800		ng/l	50000		95.6	80-120			
Copper	1.84E6		ng/l	2.0000E6		92.0	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	501000		ng/l	500000		100	80-120			
Molybdenum	361000		ng/l	350000		103	80-120			
Nickel	108000		ng/l	120000		90.1	80-120			
Selenium	18800		ng/l	20000		94.2	80-120			
Thallium	528		ng/l	500.00		106	80-120			
Vanadium	20800		ng/l	20000		104	80-120			
Zinc	438000		ng/l	500000		87.6	80-120			
Batch B4K2605 - ICP-MS Extraction										
Blank (B4K2605-BLK1)				Prepared & Analyzed: 11/26/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K2605-BS1)				Prepared & Analyzed: 11/26/24						
Antimony	0.626	0.0386	ng/m³ Air	1.3829		45.2	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.9	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.5	80-120			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
LCS (B4K2605-BS1) Continued					Prepared & Analyzed: 11/26/24					
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.6	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.43	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.39	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.08	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.6	80-120			
Zinc	90.7	76.8	ng/m³ Air	82.975		109	80-120			
LCS (B4K2605-BS2)					Prepared & Analyzed: 11/26/24					
Antimony	0.652	0.0386	ng/m³ Air	1.3829		47.1	80-120			SL
Arsenic	2.67	0.00937	ng/m³ Air	2.7658		96.4	80-120			
Barium	26.8	1.07	ng/m³ Air	27.658		97.1	80-120			
Beryllium	1.37	0.00320	ng/m³ Air	1.3829		98.8	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	14.5	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.5	80-120			
Manganese	8.28	1.89	ng/m³ Air	8.2975		99.8	80-120			
Molybdenum	1.44	0.359	ng/m³ Air	1.3829		104	80-120			
Nickel	3.06	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.2	80-120			
Zinc	90.3	76.8	ng/m³ Air	82.975		109	80-120			
LCS (B4K2605-BS3)					Prepared & Analyzed: 11/26/24					
Antimony	1.41	0.0386	ng/m³ Air	1.3829		102	80-120			
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.2	80-120			
Barium	26.5	1.07	ng/m³ Air	27.658		95.8	80-120			
Beryllium	1.39	0.00320	ng/m³ Air	1.3829		101	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	13.6	2.21	ng/m³ Air	13.829		98.5	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
LCS (B4K2605-BS3) Continued					Prepared & Analyzed: 11/26/24					
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.1	80-120			
Manganese	8.33	1.89	ng/m³ Air	8.2975		100	80-120			
Molybdenum	1.26	0.359	ng/m³ Air	1.3829		90.9	80-120			
Nickel	2.81	0.652	ng/m³ Air	2.7658		102	80-120			
Selenium	2.92	0.00896	ng/m³ Air	2.7658		106	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	88.1	76.8	ng/m³ Air	82.975		106	80-120			
LCS (B4K2605-BS4)					Prepared & Analyzed: 11/26/24					
Antimony	1.41	0.0386	ng/m³ Air	1.3829		102	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.8	80-120			
Barium	26.5	1.07	ng/m³ Air	27.658		95.9	80-120			
Beryllium	1.39	0.00320	ng/m³ Air	1.3829		101	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	13.6	2.21	ng/m³ Air	13.829		98.1	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	28.7	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.6	80-120			
Manganese	8.28	1.89	ng/m³ Air	8.2975		99.8	80-120			
Molybdenum	1.27	0.359	ng/m³ Air	1.3829		91.6	80-120			
Nickel	2.79	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.84	0.00896	ng/m³ Air	2.7658		103	80-120			
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		100	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	87.4	76.8	ng/m³ Air	82.975		105	80-120			
Duplicate (B4K2605-DUP1)		**Source: 4112522-24**			Prepared & Analyzed: 11/26/24					
Antimony	0.195	0.0325	ng/m³ Air		0.194			0.691	10	SL
Arsenic	0.542	0.00790	ng/m³ Air		0.550			1.58	10	
Barium	6.23	0.902	ng/m³ Air		6.30			1.13	10	
Beryllium	0.0195	0.00270	ng/m³ Air		0.0198			1.67	10	
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	3.90	1.86	ng/m³ Air		3.54			9.78	10	
Cobalt	0.783	0.0368	ng/m³ Air		0.774			1.14	10	
Copper	49.7	2.22	ng/m³ Air		48.7			2.02	10	
Lead	0.986	0.180	ng/m³ Air		0.942			4.60	10	
Manganese	18.8	1.59	ng/m³ Air		18.5			1.32	10	
Molybdenum	2.07	0.303	ng/m³ Air		2.01			2.72	10	

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Duplicate (B4K2605-DUP1) Continued			**Source: 4112522-24**		Prepared & Analyzed: 11/26/24					
Nickel	2.58	0.550	ng/m³ Air		2.37			8.23	10	
Selenium	0.233	0.00755	ng/m³ Air		0.228			1.93	10	
Thallium	0.00189	4.97E-4	ng/m³ Air		0.00180			4.95	10	
Vanadium	2.48	0.0446	ng/m³ Air		2.43			2.08	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4K2605-DUP2)			**Source: 4112522-02**		Prepared & Analyzed: 11/26/24					
Antimony	0.158	0.0290	ng/m³ Air		0.163			3.41	10	SL
Arsenic	0.973	0.00703	ng/m³ Air		0.831			15.7	10	
Barium	9.34	0.803	ng/m³ Air		9.50			1.64	10	
Beryllium	0.0415	0.00240	ng/m³ Air		0.0413			0.550	10	
Cadmium	0.145	0.0556	ng/m³ Air		0.139			3.85	10	
Chromium	5.80	1.66	ng/m³ Air		5.63			2.94	10	
Cobalt	1.46	0.0327	ng/m³ Air		1.46			0.222	10	
Copper	34.3	1.97	ng/m³ Air		32.7			4.96	10	
Lead	2.55	0.161	ng/m³ Air		3.05			17.8	10	
Manganese	39.0	1.42	ng/m³ Air		39.0			0.0567	10	
Molybdenum	1.08	0.270	ng/m³ Air		1.09			0.599	10	
Nickel	3.76	0.489	ng/m³ Air		3.76			0.189	10	
Selenium	0.199	0.00673	ng/m³ Air		0.201			1.01	10	
Thallium	0.00188	4.42E-4	ng/m³ Air		0.00207			9.40	10	
Vanadium	4.44	0.0397	ng/m³ Air		4.36			1.77	10	
Zinc	ND	57.7	ng/m³ Air		ND				10	U
Duplicate (B4K2605-DUP3)			**Source: 4112522-12**		Prepared & Analyzed: 11/26/24					
Antimony	0.135	0.0347	ng/m³ Air		0.136			0.343	10	SL
Arsenic	0.0869	0.00844	ng/m³ Air		0.0845			2.84	10	
Barium	2.36	0.963	ng/m³ Air		2.35			0.395	10	
Beryllium	0.0106	0.00288	ng/m³ Air		0.0104			1.54	10	
Cadmium	ND	0.0667	ng/m³ Air		ND				10	U
Chromium	ND	1.99	ng/m³ Air		ND				10	U
Cobalt	0.227	0.0393	ng/m³ Air		0.224			1.23	10	
Copper	24.7	2.37	ng/m³ Air		24.8			0.250	10	
Lead	ND	0.193	ng/m³ Air		ND				10	U
Manganese	6.19	1.70	ng/m³ Air		6.20			0.103	10	
Molybdenum	1.53	0.323	ng/m³ Air		1.52			0.633	10	
Nickel	0.843	0.587	ng/m³ Air		0.846			0.451	10	
Selenium	0.164	0.00807	ng/m³ Air		0.178			8.22	10	
Thallium	5.98E-4	5.30E-4	ng/m³ Air		5.53E-4			7.87	10	
Vanadium	0.656	0.0476	ng/m³ Air		0.663			1.03	10	

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Duplicate (B4K2605-DUP3) Continued		**Source: 4112522-12**		Prepared & Analyzed: 11/26/24						
Zinc	ND	69.1	ng/m³ Air		ND				10	U
Duplicate (B4K2605-DUP4)		**Source: 4112522-31**		Prepared: 11/26/24 Analyzed: 11/27/24						
Antimony	0.0690	0.0345	ng/m³ Air		0.0691			0.156	10	SL
Arsenic	0.597	0.00836	ng/m³ Air		0.600			0.561	10	
Barium	4.26	0.955	ng/m³ Air		4.27			0.306	10	
Beryllium	0.0233	0.00286	ng/m³ Air		0.0234			0.585	10	
Cadmium	ND	0.0661	ng/m³ Air		ND				10	U
Chromium	3.25	1.97	ng/m³ Air		3.20			1.40	10	
Cobalt	0.694	0.0389	ng/m³ Air		0.692			0.394	10	
Copper	28.2	2.35	ng/m³ Air		28.0			0.684	10	
Lead	0.417	0.191	ng/m³ Air		0.420			0.513	10	
Manganese	24.4	1.69	ng/m³ Air		24.2			1.04	10	
Molybdenum	1.15	0.320	ng/m³ Air		1.14			0.419	10	
Nickel	1.83	0.582	ng/m³ Air		1.81			1.12	10	
Selenium	0.196	0.00800	ng/m³ Air		0.206			4.85	10	
Thallium	0.00162	5.26E-4	ng/m³ Air		0.00166			2.62	10	
Vanadium	2.07	0.0472	ng/m³ Air		2.07			0.281	10	
Zinc	ND	68.5	ng/m³ Air		ND				10	U
Matrix Spike (B4K2605-MS1)		**Source: 4112522-24**		Prepared & Analyzed: 11/26/24						
Antimony	0.864	0.0325	ng/m³ Air	1.1657	0.194	57.5	80-120			SL
Arsenic	2.71	0.00790	ng/m³ Air	2.3315	0.550	92.4	80-120			
Barium	27.5	0.902	ng/m³ Air	23.315	6.30	90.8	80-120			
Beryllium	1.19	0.00270	ng/m³ Air	1.1657	0.0198	100	80-120			
Cadmium	1.17	0.0625	ng/m³ Air	1.1657	ND	100	80-120			
Chromium	14.7	1.86	ng/m³ Air	11.657	3.54	95.9	80-120			
Cobalt	1.94	0.0368	ng/m³ Air	1.1657	0.774	99.9	80-120			
Copper	72.3	2.22	ng/m³ Air	23.315	48.7	101	80-120			
Lead	12.7	0.180	ng/m³ Air	11.657	0.942	101	80-120			
Manganese	25.6	1.59	ng/m³ Air	6.9945	18.5	101	80-120			
Molybdenum	3.01	0.303	ng/m³ Air	1.1657	2.01	85.4	80-120			
Nickel	4.68	0.550	ng/m³ Air	2.3315	2.37	99.0	80-120			
Selenium	2.44	0.00755	ng/m³ Air	2.3315	0.228	94.8	80-120			
Thallium	0.115	4.97E-4	ng/m³ Air	0.11657	0.00180	96.8	80-120			
Vanadium	4.76	0.0446	ng/m³ Air	2.3315	2.43	100	80-120			
Zinc	90.1	64.7	ng/m³ Air	69.945	ND	129	80-120			
Matrix Spike (B4K2605-MS2)		**Source: 4112522-02**		Prepared & Analyzed: 11/26/24						
Antimony	0.690	0.0290	ng/m³ Air	1.0382	0.163	50.8	80-120			SL
Arsenic	2.66	0.00703	ng/m³ Air	2.0764	0.831	88.0	80-120			

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FILE #: 4205.00.003.001
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Matrix Spike (B4K2605-MS2) Continued Source: 4112522-02 Prepared & Analyzed: 11/26/24										
Barium	28.1	0.803	ng/m³ Air	20.764	9.50	89.4	80-120			
Beryllium	1.09	0.00240	ng/m³ Air	1.0382	0.0413	101	80-120			
Cadmium	1.26	0.0556	ng/m³ Air	1.0382	0.139	108	80-120			
Chromium	15.5	1.66	ng/m³ Air	10.382	5.63	95.3	80-120			
Cobalt	2.49	0.0327	ng/m³ Air	1.0382	1.46	99.1	80-120			
Copper	55.7	1.97	ng/m³ Air	20.764	32.7	111	80-120			
Lead	13.1	0.161	ng/m³ Air	10.382	3.05	97.2	80-120			
Manganese	45.4	1.42	ng/m³ Air	6.2293	39.0	103	80-120			
Molybdenum	1.87	0.270	ng/m³ Air	1.0382	1.09	75.4	80-120			QM-07
Nickel	5.86	0.489	ng/m³ Air	2.0764	3.76	101	80-120			
Selenium	2.08	0.00673	ng/m³ Air	2.0764	0.201	90.4	80-120			
Thallium	0.101	4.42E-4	ng/m³ Air	0.10382	0.00207	95.4	80-120			
Vanadium	6.47	0.0397	ng/m³ Air	2.0764	4.36	102	80-120			
Zinc	98.7	57.7	ng/m³ Air	62.293	ND	158	80-120			
Matrix Spike Dup (B4K2605-MSD1) Source: 4112522-24 Prepared & Analyzed: 11/26/24										
Antimony	0.857	0.0325	ng/m³ Air	1.1657	0.194	56.9	80-120	0.829	20	SL
Arsenic	2.71	0.00790	ng/m³ Air	2.3315	0.550	92.7	80-120	0.257	20	
Barium	27.9	0.902	ng/m³ Air	23.315	6.30	92.8	80-120	1.62	20	
Beryllium	1.18	0.00270	ng/m³ Air	1.1657	0.0198	99.5	80-120	0.712	20	
Cadmium	1.18	0.0625	ng/m³ Air	1.1657	ND	101	80-120	0.872	20	
Chromium	14.7	1.86	ng/m³ Air	11.657	3.54	96.0	80-120	0.116	20	
Cobalt	1.93	0.0368	ng/m³ Air	1.1657	0.774	98.9	80-120	0.598	20	
Copper	73.1	2.22	ng/m³ Air	23.315	48.7	105	80-120	1.04	20	
Lead	12.6	0.180	ng/m³ Air	11.657	0.942	100	80-120	0.450	20	
Manganese	25.4	1.59	ng/m³ Air	6.9945	18.5	98.6	80-120	0.671	20	
Molybdenum	3.00	0.303	ng/m³ Air	1.1657	2.01	84.8	80-120	0.225	20	
Nickel	4.69	0.550	ng/m³ Air	2.3315	2.37	99.4	80-120	0.166	20	
Selenium	2.47	0.00755	ng/m³ Air	2.3315	0.228	96.0	80-120	1.19	20	
Thallium	0.117	4.97E-4	ng/m³ Air	0.11657	0.00180	98.9	80-120	2.13	20	
Vanadium	4.74	0.0446	ng/m³ Air	2.3315	2.43	99.3	80-120	0.426	20	
Zinc	91.8	64.7	ng/m³ Air	69.945	ND	131	80-120	1.82	20	
Matrix Spike Dup (B4K2605-MSD2) Source: 4112522-02 Prepared & Analyzed: 11/26/24										
Antimony	0.630	0.0290	ng/m³ Air	1.0382	0.163	45.0	80-120	9.11	20	SL
Arsenic	2.46	0.00703	ng/m³ Air	2.0764	0.831	78.3	80-120	7.83	20	QM-07
Barium	26.1	0.803	ng/m³ Air	20.764	9.50	80.0	80-120	7.17	20	
Beryllium	1.00	0.00240	ng/m³ Air	1.0382	0.0413	92.7	80-120	8.01	20	
Cadmium	1.05	0.0556	ng/m³ Air	1.0382	0.139	87.8	80-120	18.0	20	
Chromium	14.7	1.66	ng/m³ Air	10.382	5.63	87.3	80-120	5.53	20	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Matrix Spike Dup (B4K2605-MSD2) Conti		**Source: 4112522-02**			Prepared & Analyzed: 11/26/24					
Cobalt	2.35	0.0327	ng/m³ Air	1.0382	1.46	85.0	80-120	6.04	20	
Copper	57.9	1.97	ng/m³ Air	20.764	32.7	122	80-120	3.94	20	QM-07
Lead	12.3	0.161	ng/m³ Air	10.382	3.05	88.9	80-120	6.76	20	
Manganese	42.4	1.42	ng/m³ Air	6.2293	39.0	54.8	80-120	6.79	20	QM-07
Molybdenum	1.74	0.270	ng/m³ Air	1.0382	1.09	62.8	80-120	7.24	20	QM-07
Nickel	5.59	0.489	ng/m³ Air	2.0764	3.76	88.0	80-120	4.73	20	
Selenium	1.94	0.00673	ng/m³ Air	2.0764	0.201	83.7	80-120	6.88	20	
Thallium	0.0922	4.42E-4	ng/m³ Air	0.10382	0.00207	86.8	80-120	9.21	20	
Vanadium	6.04	0.0397	ng/m³ Air	2.0764	4.36	80.9	80-120	6.88	20	
Zinc	93.9	57.7	ng/m³ Air	62.293	ND	151	80-120	5.01	20	
Post Spike (B4K2605-PS1)		**Source: 4112522-24**			Prepared & Analyzed: 11/26/24					
Antimony	0.423	0.0325	ng/m³ Air	0.23315	0.194	98.5	75-125			SL
Arsenic	1.60	0.00790	ng/m³ Air	1.1657	0.550	90.2	75-125			
Barium	8.27	0.902	ng/m³ Air	2.3315	6.30	84.7	75-125			
Beryllium	0.256	0.00270	ng/m³ Air	0.23315	0.0198	101	75-125			
Cadmium	0.129	0.0625	ng/m³ Air	0.11657	ND	110	75-125			
Chromium	4.64	1.86	ng/m³ Air	1.1657	3.54	94.1	75-125			
Cobalt	0.997	0.0368	ng/m³ Air	0.23315	0.774	95.6	75-125			
Copper	60.3	2.22	ng/m³ Air	11.657	48.7	99.7	75-125			
Lead	24.2	0.180	ng/m³ Air	23.315	0.942	99.6	75-125			
Manganese	20.8	1.59	ng/m³ Air	2.3315	18.5	99.0	75-125			
Molybdenum	2.97	0.303	ng/m³ Air	1.1657	2.01	82.1	75-125			
Nickel	4.60	0.550	ng/m³ Air	2.3315	2.37	95.3	75-125			
Selenium	1.28	0.00755	ng/m³ Air	1.1657	0.228	90.3	75-125			
Thallium	0.0571	4.97E-4	ng/m³ Air	5.8287E-2	0.00180	94.8	75-125			
Vanadium	3.57	0.0446	ng/m³ Air	1.1657	2.43	97.5	75-125			
Zinc	ND	64.7	ng/m³ Air	23.315	ND		75-125			U
Post Spike (B4K2605-PS2)		**Source: 4112522-02**			Prepared & Analyzed: 11/26/24					
Antimony	0.363	0.0290	ng/m³ Air	0.20764	0.163	96.2	75-125			SL
Arsenic	1.75	0.00703	ng/m³ Air	1.0382	0.831	88.2	75-125			
Barium	11.2	0.803	ng/m³ Air	2.0764	9.50	83.5	75-125			
Beryllium	0.246	0.00240	ng/m³ Air	0.20764	0.0413	98.4	75-125			
Cadmium	0.235	0.0556	ng/m³ Air	0.10382	0.139	92.1	75-125			
Chromium	6.60	1.66	ng/m³ Air	1.0382	5.63	93.8	75-125			
Cobalt	1.66	0.0327	ng/m³ Air	0.20764	1.46	93.5	75-125			
Copper	43.0	1.97	ng/m³ Air	10.382	32.7	99.5	75-125			
Lead	23.3	0.161	ng/m³ Air	20.764	3.05	97.4	75-125			
Manganese	40.9	1.42	ng/m³ Air	2.0764	39.0	90.2	75-125			

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
SUBMITTED: 11/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Post Spike (B4K2605-PS2) Continued		**Source: 4112522-02**		Prepared & Analyzed: 11/26/24						
Molybdenum	1.83	0.270	ng/m³ Air	1.0382	1.09	71.4	75-125			PS-01
Nickel	5.69	0.489	ng/m³ Air	2.0764	3.76	92.8	75-125			
Selenium	1.11	0.00673	ng/m³ Air	1.0382	0.201	87.9	75-125			
Thallium	0.0502	4.42E-4	ng/m³ Air	5.1911E-2	0.00207	92.8	75-125			
Vanadium	5.34	0.0397	ng/m³ Air	1.0382	4.36	94.6	75-125			
Zinc	ND	57.7	ng/m³ Air	20.764	ND		75-125			U
Dilution Check (B4K2605-SRL1)		**Source: 4112522-24**		Prepared & Analyzed: 11/26/24						
Antimony	0.189	0.163	ng/m³ Air		0.194			2.24	10	SL
Arsenic	0.547	0.0395	ng/m³ Air		0.550			0.678	10	
Barium	6.43	4.51	ng/m³ Air		6.30			2.10	10	
Beryllium	0.0199	0.0135	ng/m³ Air		0.0198			0.419	10	
Cadmium	ND	0.312	ng/m³ Air		ND				10	U
Chromium	ND	9.31	ng/m³ Air		ND				10	U
Cobalt	0.798	0.184	ng/m³ Air		0.774			2.98	10	
Copper	49.8	11.1	ng/m³ Air		48.7			2.23	10	
Lead	0.911	0.902	ng/m³ Air		0.942			3.30	10	
Manganese	19.1	7.97	ng/m³ Air		18.5			2.94	10	
Molybdenum	2.13	1.51	ng/m³ Air		2.01			5.70	10	
Nickel	ND	2.75	ng/m³ Air		ND				10	U
Selenium	0.232	0.0378	ng/m³ Air		0.228			1.86	10	
Thallium	0.00384	0.00248	ng/m³ Air		ND			72.5	10	
Vanadium	2.43	0.223	ng/m³ Air		2.43			0.0447	10	
Zinc	ND	324	ng/m³ Air		ND				10	U
Dilution Check (B4K2605-SRL2)		**Source: 4112522-02**		Prepared & Analyzed: 11/26/24						
Antimony	0.166	0.145	ng/m³ Air		0.163			1.60	10	SL
Arsenic	0.865	0.0352	ng/m³ Air		0.831			3.95	10	
Barium	10.4	4.02	ng/m³ Air		9.50			8.83	10	
Beryllium	0.0426	0.0120	ng/m³ Air		0.0413			3.21	10	
Cadmium	ND	0.278	ng/m³ Air		ND				10	U
Chromium	ND	8.30	ng/m³ Air		ND				10	U
Cobalt	1.55	0.164	ng/m³ Air		1.46			5.51	10	
Copper	34.5	9.87	ng/m³ Air		32.7			5.51	10	
Lead	2.92	0.803	ng/m³ Air		3.05			4.27	10	
Manganese	40.3	7.09	ng/m³ Air		39.0			3.20	10	
Molybdenum	ND	1.35	ng/m³ Air		ND				10	U
Nickel	4.04	2.45	ng/m³ Air		3.76			7.08	10	
Selenium	0.235	0.0336	ng/m³ Air		0.201			15.7	10	SRD-01
Thallium	0.00422	0.00221	ng/m³ Air		ND			68.6	10	

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FILE #: 4205.00.003.001
REPORTED: 12/03/24 12:08
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K2605 - ICP-MS Extraction										
Dilution Check (B4K2605-SRL2) ContinueSource: 4112522-02 Prepared & Analyzed: 11/26/24										
Vanadium	4.50	0.199	ng/m³ Air		4.36			3.25	10	
Zinc	ND	288	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/03/2024 and Shanna Vasser 12/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 11/14/2024 – 11/20/2024
Report No: 4112522

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-111424-HM; for barium and nickel in MFL-FB01-111624-HM; and for barium, copper, and nickel in MFL-LB01-111724-HM.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

November 21 through November 27, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from November 21 through November 27, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from November 21 through November 27 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

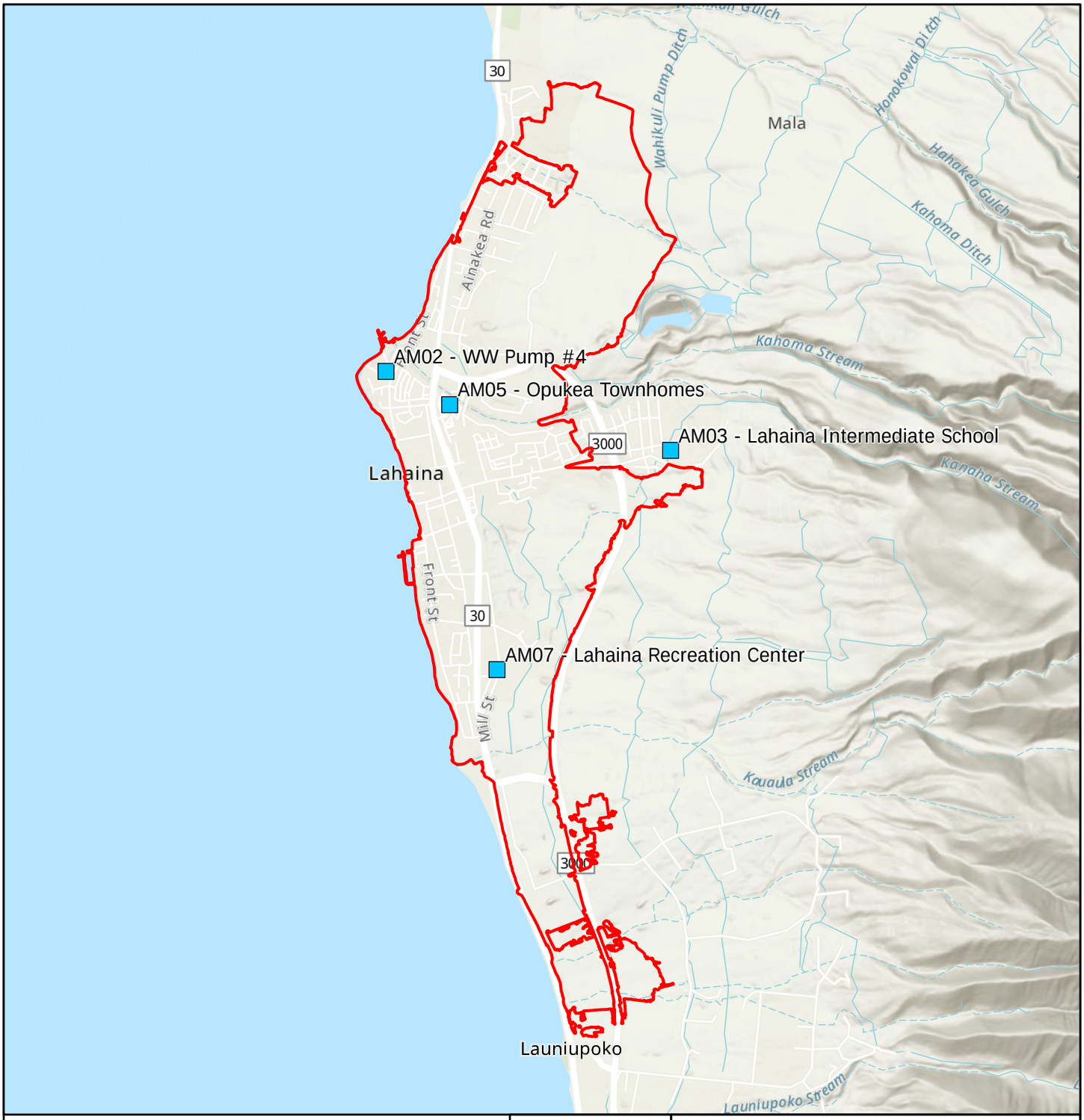
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
November 21, through November 27, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/21/2024	AM-02	WW Pump Station #4	0.8	SSE	77	61	762.0
11/21/2024	AM-03	Lahaina Intermediate School	1.1	ESE	76	59	752.8
11/21/2024	AM-05	Opukea Townhomes	1.2	SE	77	57	761.5
11/21/2024	AM-07	Lahaina Recreational Center	1.4	SE	76	61	761.3
11/22/2024	AM-02	WW Pump Station #4	0.9	SSE	77	63	763.0
11/22/2024	AM-03	Lahaina Intermediate School	0.9	SE	75	62	753.7
11/22/2024	AM-05	Opukea Townhomes	0.9	ESE	76	59	762.5
11/22/2024	AM-07	Lahaina Recreational Center	1.4	SE	75	64	762.3
11/23/2024	AM-02	WW Pump Station #4	1.0	SE	77	64	762.1
11/23/2024	AM-03	Lahaina Intermediate School	1.2	SE	75	60	752.8
11/23/2024	AM-05	Opukea Townhomes	1.1	E	77	58	761.6
11/23/2024	AM-07	Lahaina Recreational Center	1.5	SSE	75	64	761.3
11/24/2024	AM-02	WW Pump Station #4	0.9	SSE	76	65	761.0
11/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	75	63	751.7
11/24/2024	AM-05	Opukea Townhomes	1.0	E	76	59	760.5
11/24/2024	AM-07	Lahaina Recreational Center	1.4	SSE	74	66	760.2
11/25/2024	AM-02	WW Pump Station #4	1.0	SSE	78	67	760.9
11/25/2024	AM-03	Lahaina Intermediate School	1.6	E	77	61	751.6
11/25/2024	AM-05	Opukea Townhomes	1.5	E	78	61	760.4
11/25/2024	AM-07	Lahaina Recreational Center	1.7	ESE	76	64	760.2
11/26/2024	AM-02	WW Pump Station #4	1.3	SSE	78	63	761.8
11/26/2024	AM-03	Lahaina Intermediate School	1.9	ESE	77	58	752.4
11/26/2024	AM-05	Opukea Townhomes	1.6	E	78	58	761.3
11/26/2024	AM-07	Lahaina Recreational Center	2.0	SSE	76	62	761.0
11/27/2024	AM-02	WW Pump Station #4	1.3	SE	79	62	761.5
11/27/2024	AM-03	Lahaina Intermediate School	1.4	ESE	77	61	752.1
11/27/2024	AM-05	Opukea Townhomes	2.0	E	78	58	761.0
11/27/2024	AM-07	Lahaina Recreational Center	1.4	ESE	76	64	760.7

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
November 21 through November 27, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
11/21/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	5.0
	Lahaina Recreation Center (AM-07)	7.6
11/22/2024	Opukea Townhomes (AM-05)	5.2
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Recreation Center (AM-07)	7.1
11/23/2024	Opukea Townhomes (AM-05)	6.8
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	5.2
	Lahaina Recreation Center (AM-07)	5.0
11/24/2024	Opukea Townhomes (AM-05)	5.4
	WW Pump Station #4 (AM-02)	6.6
	Lahaina Intermediate School (AM-03)	6.1
	Lahaina Recreation Center (AM-07)	6.4
11/25/2024	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Recreation Center (AM-07)	9.9
11/26/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	10
11/27/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	9.9
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Recreation Center (AM-07)	7.2

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
November 21 through November 27, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		**s/cc**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
11/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000140	0.000282	0.00545	0.0000124	ND	0.00333	0.000524	0.0545	0.000674	0.0144	0.00287	0.00194	0.000166	0.00000140	0.00163	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000238	0.000398	0.0105	0.0000287	ND	0.00485	0.00111	0.0490	0.00103	0.0304	0.00174	0.00311	0.000241	0.00000192	0.00357	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000819	0.000141	0.00281	0.0000208	ND	0.00231	0.000378	0.0601	0.000239	0.00963	0.00240	0.00120	0.000158	0.00000106	0.000938	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000474	0.00574	0.0000220	ND	0.00339	0.000744	0.0302	0.000474	0.0256	0.00141	0.00183	0.000185	0.00000158	0.00197	ND
11/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000104	0.000212	0.00457	0.0000125	ND	0.00271	0.000474	0.0502	0.000671	0.0128	0.00257	0.00168	0.000157	0.00000144	0.00153	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000452	0.000652	0.0135	0.0000415	0.000250	0.00563	0.00136	0.0558	0.00233	0.0409	0.00206	0.00381	0.000277	0.00000242	0.00428	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000712	0.000213	0.00456	0.0000354	ND	0.00373	0.000711	0.0590	0.000371	0.0172	0.00271	0.00235	0.000203	0.00000154	0.00194	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000910	0.0157	0.0000760	ND	0.00734	0.00202	0.0296	0.00165	0.0702	0.00126	0.00431	0.000385	0.00000344	0.00519	ND
11/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000124	0.000208	0.00485	0.0000110	ND	0.00322	0.000417	0.0367	0.000535	0.0115	0.00253	0.00203	0.000142	0.00000147	0.00133	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000241	0.000367	0.00976	0.0000309	ND	0.00475	0.00116	0.0440	0.00119	0.0292	0.00262	0.00339	0.000217	0.00000224	0.00336	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000779	0.000186	0.00428	0.0000220	ND	0.00332	0.000568	0.0671	0.000489	0.0132	0.00366	0.00213	0.000160	0.00000167	0.00144	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000102	0.000311	0.00568	0.0000283	ND	0.00317	0.000720	0.0283	0.000969	0.0242	0.00132	0.00193	0.000206	0.00000188	0.00190	ND
11/24/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000997	0.000176	0.00386	0.00000966	ND	0.00235	0.000362	0.0308	0.000506	0.0106	0.00226	0.00156	0.000150	0.00000137	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000258	0.000230	0.00691	0.0000119	0.000128	0.00242	0.000426	0.0536	0.000948	0.0139	0.00356	0.00157	0.000170	0.00000148	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000540	0.000214	0.00242	0.00000954	ND	0.00193	0.000270	0.0451	0.000401	0.00720	0.00277	0.00122	0.000132	0.00000116	0.00110	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000748	0.000280	0.00364	0.0000177	ND	0.00253	0.000455	0.0200	0.000436	0.0170	0.00126	0.00150	0.000168	0.00000142	0.00159	ND
11/25/2024	Opukea Townhomes (AM-05)	<0.0024	0.000172	0.000290	0.00720	0.0000219	ND	0.00576	0.000973	0.0398	0.000562	0.0238	0.00282	0.00393	0.000174	0.00000175	0.00283	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000218	0.000365	0.00926	0.0000263	ND	0.00420	0.000968	0.0561	0.00130	0.0262	0.00251	0.00291	0.000189	0.00000185	0.00294	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000585	0.000199	0.00464	0.0000351	ND	0.00801	0.000907	0.0716	0.000628	0.0207	0.00320	0.00583	0.000200	0.00000167	0.00212	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000132	0.000660	0.00607	0.0000310	ND	0.00529	0.00106	0.0310	0.000867	0.0354	0.00145	0.00269	0.000228	0.00000248	0.00291	ND
11/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.000137	0.000791	0.0167	0.0000697	ND	0.0121	0.00309	0.0428	0.00117	0.0722	0.00258	0.00963	0.000384	0.00000368	0.00856	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000247	0.000613	0.0153	0.0000425	ND	0.00666	0.00161	0.0703	0.00260	0.0460	0.00265	0.00473	0.000319	0.00000254	0.00508	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000740	0.000260	0.00487	0.0000461	ND	0.00533	0.00108	0.0617	0.000657	0.0257	0.00359	0.00320	0.000252	0.00000198	0.00251	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000141	0.00143	0.0113	0.0000750	ND	0.0102	0.00250	0.0241	0.00134	0.0826	0.00108	0.00563	0.000447	0.00000423	0.00661	ND
11/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000948	0.000850	0.0171	0.0000767	ND	0.0149	0.00379	0.0377	0.000893	0.0839	0.00190	0.0103	0.000413	0.00000368	0.0103	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000172	0.000754	0.0139	0.0000543	ND	0.00717	0.00172	0.0625	0.00397	0.0536	0.00205	0.00436	0.000339	0.00000269	0.00561	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000495	0.000253	0.00443	0.0000500	ND	0.00581	0.00120	0.0485	0.000389	0.0282	0.00220	0.00325	0.000257	0.00000187	0.00266	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000789	0.000749	0.00649	0.0000383	0.0000665	0.00604	0.00126	0.0183	0.000888	0.0422	0.00105	0.00293	0.000277	0.00000232	0.00341	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.000560	0.00982	0.0000450	0.000306	0.00644	0.00149	0.0526	0.00128	0.0419	0.00262	0.00417	0.000270	0.00000240	0.00409	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112124-AB**	**Sample Description:**	**DL264103**
EMSL Sample Number:	042424386-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7161.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0001 **Customer Sample:** MFL-AM05-112124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J2	None Detected									
B2	F1	None Detected									
B2	C3	None Detected									
B3	B8	None Detected									
B3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112124-AB**		**Sample Description:**	**DL264067**
EMSL Sample Number:	042424386-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0002 **Customer Sample:** MFL-AM02-112124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J4	None Detected									
B5	G2	None Detected									
B5	C3	None Detected									
B6	C8	None Detected									
B6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112124-AB**	**Sample Description:**	**DL264089**
EMSL Sample Number:	042424386-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7275.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0003 **Customer Sample:** MFL-AM03-112124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A2	None Detected									
C1	D5	None Detected									
C1	H6	None Detected									
C2	H3	None Detected									
C2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112124-AB**		**Sample Description:**	**DL264093**
EMSL Sample Number:	042424386-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0004 **Customer Sample:** MFL-AM07-112124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A7	None Detected									
C5	E9	None Detected									
C5	H10	None Detected									
C6	G4	None Detected									
C6	C5	None Detected									

Abbreviations used:
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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-112124-AB** **Sample Description: Dl264082**

EMSL Sample Number:	042424386-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0005 **Customer Sample:** MFL-FB01-112124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A2	None Detected									
D1	C6	None Detected									
D1	E8	None Detected									
D1	G6	None Detected									
D1	I4	None Detected									
D2	A1	None Detected									
D2	C2	None Detected									
D2	E4	None Detected									
D2	G6	None Detected									
D2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112224-AB**	**Sample Description:**	**DL264061**
EMSL Sample Number:	042424386-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7161.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0006 **Customer Sample:** MFL-AM05-112224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A4	None Detected									
D5	D8	None Detected									
D5	J9	None Detected									
D6	H3	None Detected									
D6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112224-AB**	**Sample Description:**	**DL264068**
EMSL Sample Number:	042424386-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6682.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0007 **Customer Sample:** MFL-AM02-112224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B9	None Detected									
E1	E4	None Detected									
E1	H6	None Detected									
E2	I5	None Detected									
E2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112224-AB**		**Sample Description:**	**DL264061**
EMSL Sample Number:	042424386-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6704.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0008 **Customer Sample:** MFL-AM03-112224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J6	None Detected									
E5	F3	None Detected									
E5	C4	None Detected									
E6	H5	None Detected									
E6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112224-AB**	**Sample Description:**	**DL264102**
EMSL Sample Number:	042424386-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7271.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0009 **Customer Sample:** MFL-AM07-112224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	I5	None Detected									
F2	F2	None Detected									
F2	C3	None Detected									
F3	J4	None Detected									
F3	C2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-112224-AB**		**Sample Description:**	**DL264072**
EMSL Sample Number:	042424386-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0010 **Customer Sample:** MFL-FB01-112224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C10	None Detected									
F5	E7	None Detected									
F5	G10	None Detected									
F5	I8	None Detected									
F6	J3	None Detected									
F6	H3	None Detected									
F6	F2	None Detected									
F6	D4	None Detected									
F6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-112324-AB** **Sample Description: DL264088**

EMSL Sample Number:	042424386-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0011 **Customer Sample:** MFL-AM05-112324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A4	None Detected									
G1	D3	None Detected									
G1	H4	None Detected									
G2	C5	None Detected									
G2	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112324-AB**		**Sample Description:**	**DL264096**
EMSL Sample Number:	042424386-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6997.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0012 **Customer Sample:** MFL-AM02-112324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A6	None Detected									
G5	D7	None Detected									
G5	G5	None Detected									
G6	H5	None Detected									
G6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112324-AB**	**Sample Description:**	**DL264084**
EMSL Sample Number:	042424386-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7234.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0013 **Customer Sample:** MFL-AM03-112324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I3	None Detected									
H1	F4	None Detected									
H1	B4	None Detected									
H2	B5	None Detected									
H2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112324-AB**	**Sample Description:**	**DL264097**
EMSL Sample Number:	042424386-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7165.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0014 **Customer Sample:** MFL-AM07-112324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B5	None Detected									
H5	F3	None Detected									
H5	I6	None Detected									
H6	B7	None Detected									
H6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-112324-AB**	**Sample Description:**	**DL264081**
EMSL Sample Number:	042424386-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0015 **Customer Sample:** MFL-FB01-112324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A5	None Detected									
I1	C8	None Detected									
I1	E10	None Detected									
I1	G5	None Detected									
I1	I5	None Detected									
I2	A3	None Detected									
I2	C4	None Detected									
I2	E1	None Detected									
I2	G4	None Detected									
I2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112424-AB**	**Sample Description:**	**DL264080**
EMSL Sample Number:	042424386-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7179.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0016 **Customer Sample:** MFL-AM05-112424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	I3	None Detected									
I5	F2	None Detected									
I5	B5	None Detected									
I6	A7	None Detected									
I6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-112424-AB** **Sample Description: DL264086**

EMSL Sample Number:	042424386-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6970.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0017 **Customer Sample:** MFL-AM02-112424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B5	None Detected									
J1	E2	None Detected									
J1	G6	None Detected									
J2	B6	None Detected									
J2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112424-AB**	**Sample Description:**	**DL264095**
EMSL Sample Number:	042424386-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7424.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0010**	**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0018 **Customer Sample:** MFL-AM03-112424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I4	None Detected									
J5	F8	None Detected									
J6	A6	None Detected									
J6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112424-AB**	**Sample Description:**	**DL264078**
EMSL Sample Number:	042424386-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7120.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0019 **Customer Sample:** MFL-AM07-112424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I8	None Detected									
K1	F9	None Detected									
K1	C9	None Detected									
K2	C2	None Detected									
K2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424386
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-112424-AB** **Sample Description:** **DL264065**

EMSL Sample Number:	042424386-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0020 **Customer Sample:** MFL-FB01-112424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A5	None Detected									
K5	C3	None Detected									
K5	E8	None Detected									
K5	G6	None Detected									
K5	I3	None Detected									
K6	J7	None Detected									
K6	H5	None Detected									
K6	F7	None Detected									
K6	D5	None Detected									
K6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/27/2024 10:00 AM
Analysis Date:	12/03/2024
Report Date:	12/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042424386-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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EMSL Order ID: 042424386
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424386-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J2	None Detected									
A1	H3	None Detected									
A1	F2	None Detected									
A1	D6	None Detected									
A1	B3	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E10	None Detected									
A2	G8	None Detected									
A2	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042424386

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424386

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ
24 NOV 27 AM 10:11

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID: ~~Tetra Tech~~
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: US
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Nicholas Keefe
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-112124-AB	DL264103	7161.432	11/21/24 1055
MFL-AM02-112124-AB	DL264067	7160.374	11/21/24 1108
MFL-AM03-112124-AB	DL264089	7275.063	11/21/24 1251
MFL-AM07-112124-AB	DL264093	7166.587	11/21/24 1309
MFL-FB01-112124-AB	DL264082	0	11/21/24 1200
MFL-AM05-112224-AB	DL264061	7161.539	11/22/24 1052
MFL-AM02-112224-AB	DL264068	6682.507	11/22/24 1124
MFL-AM03-112224-AB	DL264071	6704.177	11/22/24 1250

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20 ✓

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/25/24 1100	Received by:	Date/Time 11-27-24
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/29/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042424386

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424386

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
24 NOV 27 AM 10:11

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-112224-AB	DL264102	7271.517	11/22/24 1320
MFL-FB01-112224-AB	DL264072	0	11/22/24 1200
MFL-AM05-112324-AB	DL264088	7196.544	11/23/24 1056
MFL-AM02-112324-AB	DL264096	6997.657	11/23/24 1109
MFL-AM03-112324-AB	DL264084	7234.002	11/23/24 1254
MFL-AM07-112324-AB	DL264097	7165.585	11/23/24 1317
MFL-FB01-112324-AB	DL264081	0	11/23/24 1200
MFL-AM05-112424-AB	DL264080	7179.683	11/24/24 1057
MFL-AM02-112424-AB	DL264086	6970.918	11/24/24 1109
MFL-AM03-112424-AB	DL264095	7424.116	11/24/24 1254
MFL-AM07-112424-AB	DL264078	7120.185	11/24/24 1311
MFL-FB01-112424-AB	DL264065	0	11/24/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 11/25/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/04/2024 and Shanna Vasser 12/06/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/21/2024 – 11/24/2024
Report No: 42424386

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112524-AB**		**Sample Description:**	**DL264085**
EMSL Sample Number:	042424729-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0001 **Customer Sample:** MFL-AM05-112524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	B4	None Detected									
D2	D7	None Detected									
D2	G4	None Detected									
D3	B4	None Detected									
D3	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112524-AB**	**Sample Description:**	**DL264066**
EMSL Sample Number:	042424729-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7278.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0002 **Customer Sample:** MFL-AM02-112524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A3	None Detected									
B5	C5	None Detected									
B5	E8	None Detected									
B6	D9	None Detected									
B6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112524-AB**	**Sample Description:**	**DL264064**
EMSL Sample Number:	042424729-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7245.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0003 **Customer Sample:** MFL-AM03-112524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J5	None Detected									
C1	G10	None Detected									
C1	C7	None Detected									
C2	H7	None Detected									
C2	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112524-AB**	**Sample Description:**	**DL264109**
EMSL Sample Number:	042424729-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7286.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0004 **Customer Sample:** MFL-AM07-112524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B3	None Detected									
C5	F2	None Detected									
C5	H5	None Detected									
C6	F3	None Detected									
C6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-112524-AB** **Sample Description: DL264077**

EMSL Sample Number:	042424729-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0005 **Customer Sample:** MFL-FB01-112524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A10	None Detected									
D1	C5	None Detected									
D1	E5	None Detected									
D1	G9	None Detected									
D1	I10	None Detected									
D2	A6	None Detected									
D2	C9	None Detected									
D2	E8	None Detected									
D2	G6	None Detected									
D2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112624-AB**	**Sample Description:**	**DL264087**
EMSL Sample Number:	042424729-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7207.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0006 **Customer Sample:** MFL-AM05-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A3	None Detected									
D5	D6	None Detected									
D5	H2	None Detected									
D6	C5	None Detected									
D6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112624-AB**	**Sample Description:**	**DL264059**
EMSL Sample Number:	042424729-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7111.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0007 **Customer Sample:** MFL-AM02-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	F9	None Detected									
E1	C6	None Detected									
E2	C6	None Detected									
E2	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112624-AB**	**Sample Description:**	**DL698282**
EMSL Sample Number:	042424729-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7185.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0008 **Customer Sample:** MFL-AM03-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A7	None Detected									
E5	D6	None Detected									
E5	G5	None Detected									
E6	A5	None Detected									
E6	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-112624-AB** **Sample Description: Dl698139**

EMSL Sample Number:	042424729-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7153.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0009 **Customer Sample:** MFL-AM07-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J4	None Detected									
F1	G1	None Detected									
F1	D4	None Detected									
F2	C8	None Detected									
F2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-112624-AB**	**Sample Description:**	**DL698004**
EMSL Sample Number:	042424729-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0010 **Customer Sample:** MFL-FB01-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J5	None Detected									
F5	H2	None Detected									
F5	F1	None Detected									
F5	D6	None Detected									
F5	B2	None Detected									
F6	J10	None Detected									
F6	H7	None Detected									
F6	F2	None Detected									
F6	D7	None Detected									
F6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-112724-AB**	**Sample Description:**	**DL698343**
EMSL Sample Number:	042424729-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0011 **Customer Sample:** MFL-AM05-112724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I2	None Detected									
G1	G4	None Detected									
G1	D10	None Detected									
G2	C2	None Detected									
G2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-112724-AB**	**Sample Description:**	**DL698318**
EMSL Sample Number:	042424729-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6859.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0012 **Customer Sample:** MFL-AM02-112724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J7	None Detected									
G5	H5	None Detected									
G5	C4	None Detected									
G6	I4	None Detected									
G6	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-112724-AB**	**Sample Description:**	**DL698356**
EMSL Sample Number:	042424729-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7184.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0013 **Customer Sample:** MFL-AM03-112724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B6	None Detected									
H1	E9	None Detected									
H1	H5	None Detected									
H2	C6	None Detected									
H2	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-112724-AB**	**Sample Description:**	**DL698168**
EMSL Sample Number:	042424729-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7130.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0014 **Customer Sample:** MFL-AM07-112724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	I2	None Detected									
H5	G5	None Detected									
H5	D7	None Detected									
H6	C5	None Detected									
H6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-112724-AB** **Sample Description: DL698021**

EMSL Sample Number:	042424729-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0015 **Customer Sample:** MFL-FB01-112724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J6	None Detected									
I1	H10	None Detected									
I1	F1	None Detected									
I1	D2	None Detected									
I1	B3	None Detected									
I2	J3	None Detected									
I2	H10	None Detected									
I2	F7	None Detected									
I2	D8	None Detected									
I2	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/06/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-112624-AB** **Sample Description: DL698077**

EMSL Sample Number:	042424729-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042424729**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0016 **Customer Sample:** MFL-LB01-112624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A4	None Detected									
I5	C1	None Detected									
I5	E3	None Detected									
I5	G2	None Detected									
I5	I6	None Detected									
I6	J6	None Detected									
I6	H8	None Detected									
I6	F10	None Detected									
I6	D9	None Detected									
I6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424729
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/05/2024
Report Date:	12/07/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042424729-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424729
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424729-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A3	None Detected									
A1	C4	None Detected									
A1	E10	None Detected									
A1	F4	None Detected									
A1	I4	None Detected									
A2	J9	None Detected									
A2	H6	None Detected									
A2	F2	None Detected									
A2	D7	None Detected									
A2	B10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042424729

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424729

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	US
Phone:	703-489-2674
Email(s) for Report:	Chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Nicholas Keefe
Sampled By Signature:	Nick Keefe
No. of Samples in Shipment	16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON NJ 24 DEC -2 AM 9:30

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-112524-AB	DL264085	7198.237	11/25/24 1056
MFL-AM02-112524-AB	DL264066	7278.060	11/25/24 1115
MFL-AM03-112524-AB	DL264064	7245.966	11/25/24 1304
MFL-AM07-112524-AB	DL264109	7285.960	11/25/24 1324
MFL-FB01-112524-AB	DL264077	0	11/25/24 1200
MFL-AM05-112624-AB	DL264087	7207.001	11/26/24 1054
MFL-AM02-112624-AB	DL264059	7111.312	11/26/24 1110
MFL-AM03-112624-AB	DL698282	7185.088	11/26/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

16

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Nick Keefe	Date/Time: 11/30/24 1100	Received by: FT Date/Time 12/4/24 930
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042424729

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424729

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-112624-AB	DL 698139	7153.788	11/26/24 1316
MFL-FB01-112624-AB	DL698004	0	11/26/24 1200
MFL-AM05-112724-AB	DL 698343	7198.965	11/27/24 1052
MFL-AM02-112724-AB	DL 698318	6859.145	11/27/24 1105
MFL-AM03-112724-AB	DL698356	7184.758	11/27/24 1253
MFL-AM07-112724-AB	DL698168	7130.816	11/27/24 1311
MFL-FB01-112724-AB	DL698021	0	11/27/24 1200
MFL-LB01-112624-AB	DL698077	0	11/26/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 DEC -4 AM 11:37

Method of Shipment: Fedex			Sample Condition Upon Receipt:		
Relinquished by:	Date/Time: 11/30/24 1100		Received by:	Date/Time	12/4/24
Relinquished by:	Date/Time:		Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/10/2024 and Shanna Vasser 12/11/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/25/2024 – 11/27/2024
Report No: 42424729

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

December 12, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/05/24 11:40.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-112124-HM	4120531-01	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM02-112124-HM	4120531-02	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM03-112124-HM	4120531-03	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM07-112124-HM	4120531-04	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM05-112224-HM	4120531-05	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM02-112224-HM	4120531-06	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM03-112224-HM	4120531-07	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM07-112224-HM	4120531-08	Air	11/22/24 23:59	12/05/24 11:40
MFL-FB01-112224-HM	4120531-09	Air	11/22/24 00:00	12/05/24 11:40
MFL-AM05-112324-HM	4120531-10	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM02-112324-HM	4120531-11	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM03-112324-HM	4120531-12	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM07-112324-HM	4120531-13	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM05-112424-HM	4120531-14	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM02-112424-HM	4120531-15	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM03-112424-HM	4120531-16	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM07-112424-HM	4120531-17	Air	11/24/24 23:59	12/05/24 11:40
MFL-FB01-112424-HM	4120531-18	Air	11/24/24 00:00	12/05/24 11:40
MFL-AM05-112524-HM	4120531-19	Air	11/25/24 23:59	12/05/24 11:40
MFL-AM02-112524-HM	4120531-20	Air	11/25/24 23:59	12/05/24 11:40
MFL-AM03-112524-HM	4120531-21	Air	11/25/24 23:59	12/05/24 11:40

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-112524-HM	4120531-22	Air	11/25/24 23:59	12/05/24 11:40
MFL-AM05-112624-HM	4120531-23	Air	11/26/24 23:59	12/05/24 11:40
MFL-AM02-112624-HM	4120531-24	Air	11/26/24 23:59	12/05/24 11:40
MFL-AM03-112624-HM	4120531-25	Air	11/26/24 23:59	12/05/24 11:40
MFL-AM07-112624-HM	4120531-26	Air	11/26/24 23:59	12/05/24 11:40
MFL-FB01-112624-HM	4120531-27	Air	11/26/24 00:00	12/05/24 11:40
MFL-LB01-112624-HM	4120531-28	Air	11/26/24 00:00	12/05/24 11:40
MFL-AM05-112724-HM	4120531-29	Air	11/27/24 23:59	12/05/24 11:40
MFL-AM02-112724-HM	4120531-30	Air	11/27/24 23:59	12/05/24 11:40
MFL-AM03-112724-HM	4120531-31	Air	11/27/24 23:59	12/05/24 11:40
MFL-AM07-112724-HM	4120531-32	Air	11/27/24 23:59	12/05/24 11:40

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112124-HM
Matrix: Air
Lab ID: 4120531-01
Sample Volume: 1923.618 m³
Filter ID:
Sampled: 11/21/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 00:51

Comments: Q8537023 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.140**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.282**		**0.00793**
Barium	**7440-39-3**	**5.45**	QB-01	**0.905**
Beryllium	**7440-41-7**	**0.0124**		**0.00271**
Cadmium	7440-43-9	0.0127	U	0.0627
Chromium	**7440-47-3**	**3.33**		**1.87**
Cobalt	**7440-48-4**	**0.524**		**0.0369**
Copper	**7440-50-8**	**54.5**		**2.22**
Lead	**7439-92-1**	**0.674**		**0.181**
Manganese	**7439-96-5**	**14.4**		**1.60**
Molybdenum	**7439-98-7**	**2.87**		**0.304**
Nickel	**7440-02-0**	**1.94**		**0.551**
Selenium	**7782-49-2**	**0.166**		**0.00758**
Thallium	**7440-28-0**	**0.00140**		**4.98E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0447**
Zinc	7440-66-6	16.6	U	65.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112124-HM
Matrix: Air
Lab ID: 4120531-02
Sample Volume: 2091.231 m³
Filter ID:
Sampled: 11/21/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 01:07

Comments: Q8537022 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.238**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.398**		**0.00729**
Barium	**7440-39-3**	**10.5**	QB-01	**0.832**
Beryllium	**7440-41-7**	**0.0287**		**0.00249**
Cadmium	7440-43-9	0.0186	U	0.0577
Chromium	**7440-47-3**	**4.85**		**1.72**
Cobalt	**7440-48-4**	**1.11**		**0.0339**
Copper	**7440-50-8**	**49.0**		**2.05**
Lead	**7439-92-1**	**1.03**		**0.166**
Manganese	**7439-96-5**	**30.4**		**1.47**
Molybdenum	**7439-98-7**	**1.74**		**0.279**
Nickel	**7440-02-0**	**3.11**		**0.507**
Selenium	**7782-49-2**	**0.241**		**0.00697**
Thallium	**7440-28-0**	**0.00192**		**4.58E-4**
Vanadium	**7440-62-2**	**3.57**		**0.0412**
Zinc	7440-66-6	21.7	U	59.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112124-HM
Matrix: Air
Lab ID: 4120531-03
Sample Volume: 1950.396 m³
Filter ID:
Sampled: 11/21/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 01:23

Comments: Q8537021 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.141**		**0.00782**
Barium	**7440-39-3**	**2.81**	QB-01	**0.893**
Beryllium	**7440-41-7**	**0.0208**		**0.00267**
Cadmium	7440-43-9	0.00662	U	0.0618
Chromium	**7440-47-3**	**2.31**		**1.84**
Cobalt	**7440-48-4**	**0.378**		**0.0364**
Copper	**7440-50-8**	**60.1**		**2.19**
Lead	**7439-92-1**	**0.239**		**0.179**
Manganese	**7439-96-5**	**9.63**		**1.58**
Molybdenum	**7439-98-7**	**2.40**		**0.299**
Nickel	**7440-02-0**	**1.20**		**0.544**
Selenium	**7782-49-2**	**0.158**		**0.00747**
Thallium	**7440-28-0**	**0.00106**		**4.91E-4**
Vanadium	**7440-62-2**	**0.938**		**0.0441**
Zinc	7440-66-6	7.75	U	64.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112124-HM
Matrix: Air
Lab ID: 4120531-04
Sample Volume: 1763.668 m³
Filter ID:
Sampled: 11/21/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 01:37

Comments: Q8537020 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.474**		**0.00864**
Barium	**7440-39-3**	**5.74**	QB-01	**0.987**
Beryllium	**7440-41-7**	**0.0220**		**0.00295**
Cadmium	7440-43-9	0.00971	U	0.0684
Chromium	**7440-47-3**	**3.39**		**2.04**
Cobalt	**7440-48-4**	**0.744**		**0.0402**
Copper	**7440-50-8**	**30.2**		**2.43**
Lead	**7439-92-1**	**0.474**		**0.197**
Manganese	**7439-96-5**	**25.6**		**1.74**
Molybdenum	**7439-98-7**	**1.41**		**0.331**
Nickel	**7440-02-0**	**1.83**		**0.601**
Selenium	**7782-49-2**	**0.185**		**0.00827**
Thallium	**7440-28-0**	**0.00158**		**5.43E-4**
Vanadium	**7440-62-2**	**1.97**		**0.0488**
Zinc	7440-66-6	11.1	U	70.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112224-HM
Matrix: Air
Lab ID: 4120531-05
Sample Volume: 1913.089 m³
Filter ID:
Sampled: 11/22/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/06/24 22:10

Comments: Q8537017 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.212**		**0.00797**
Barium	**7440-39-3**	**4.57**	QB-01	**0.910**
Beryllium	**7440-41-7**	**0.0125**		**0.00272**
Cadmium	7440-43-9	0.0114	U	0.0630
Chromium	**7440-47-3**	**2.71**		**1.88**
Cobalt	**7440-48-4**	**0.474**		**0.0371**
Copper	**7440-50-8**	**50.2**		**2.24**
Lead	**7439-92-1**	**0.671**		**0.182**
Manganese	**7439-96-5**	**12.8**		**1.61**
Molybdenum	**7439-98-7**	**2.57**		**0.305**
Nickel	**7440-02-0**	**1.68**		**0.554**
Selenium	**7782-49-2**	**0.157**		**0.00762**
Thallium	**7440-28-0**	**0.00144**		**5.01E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0450**
Zinc	7440-66-6	13.9	U	65.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112224-HM
Matrix: Air
Lab ID: 4120531-06
Sample Volume: 2116.989 m³
Filter ID:
Sampled: 11/22/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 01:51

Comments: Q8537016 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.452**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.652**		**0.00720**
Barium	**7440-39-3**	**13.5**	QB-01	**0.822**
Beryllium	**7440-41-7**	**0.0415**		**0.00246**
Cadmium	**7440-43-9**	**0.250**		**0.0569**
Chromium	**7440-47-3**	**5.63**		**1.70**
Cobalt	**7440-48-4**	**1.36**		**0.0335**
Copper	**7440-50-8**	**55.8**		**2.02**
Lead	**7439-92-1**	**2.33**		**0.164**
Manganese	**7439-96-5**	**40.9**		**1.45**
Molybdenum	**7439-98-7**	**2.06**		**0.276**
Nickel	**7440-02-0**	**3.81**		**0.501**
Selenium	**7782-49-2**	**0.277**		**0.00689**
Thallium	**7440-28-0**	**0.00242**		**4.53E-4**
Vanadium	**7440-62-2**	**4.28**		**0.0407**
Zinc	7440-66-6	40.9	U	59.0

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CERTIFICATE OF ANALYSIS

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112224-HM
Matrix: Air
Lab ID: 4120531-07
Sample Volume: 1897.008 m³
Filter ID:
Sampled: 11/22/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 02:09

Comments: Q8537015 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0712**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.213**		**0.00804**
Barium	**7440-39-3**	**4.56**	QB-01	**0.918**
Beryllium	**7440-41-7**	**0.0354**		**0.00274**
Cadmium	7440-43-9	0.0145	U	0.0636
Chromium	**7440-47-3**	**3.73**		**1.90**
Cobalt	**7440-48-4**	**0.711**		**0.0374**
Copper	**7440-50-8**	**59.0**		**2.26**
Lead	**7439-92-1**	**0.371**		**0.184**
Manganese	**7439-96-5**	**17.2**		**1.62**
Molybdenum	**7439-98-7**	**2.71**		**0.308**
Nickel	**7440-02-0**	**2.35**		**0.559**
Selenium	**7782-49-2**	**0.203**		**0.00768**
Thallium	**7440-28-0**	**0.00154**		**5.05E-4**
Vanadium	**7440-62-2**	**1.94**		**0.0454**
Zinc	7440-66-6	10.2	U	65.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112224-HM
Matrix: Air
Lab ID: 4120531-08
Sample Volume: 1835.768 m³
Filter ID:
Sampled: 11/22/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 02:26

Comments: Q8537013 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.910**		**0.00830**
Barium	**7440-39-3**	**15.7**	QB-01	**0.948**
Beryllium	**7440-41-7**	**0.0760**		**0.00284**
Cadmium	7440-43-9	0.0373	U	0.0657
Chromium	**7440-47-3**	**7.34**		**1.96**
Cobalt	**7440-48-4**	**2.02**		**0.0386**
Copper	**7440-50-8**	**29.6**		**2.33**
Lead	**7439-92-1**	**1.65**		**0.190**
Manganese	**7439-96-5**	**70.2**		**1.68**
Molybdenum	**7439-98-7**	**1.26**		**0.318**
Nickel	**7440-02-0**	**4.31**		**0.578**
Selenium	**7782-49-2**	**0.385**		**0.00794**
Thallium	**7440-28-0**	**0.00344**		**5.22E-4**
Vanadium	**7440-62-2**	**5.19**		**0.0469**
Zinc	7440-66-6	18.9	U	68.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-112224-HM
Matrix: Air
Lab ID: 4120531-09
Sample Volume: 1913.089 m³
Filter ID:
Sampled: 11/22/24 00:00
Received: 12/05/24 11:40
Analysis Date: 12/07/24 02:43

Comments: Q8537004 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0210	SL, U	0.0328
Arsenic	**7440-38-2**	**0.0140**	FB-01	**0.00797**
Barium	**7440-39-3**	**0.925**	FB-01, QB-01	**0.910**
Beryllium	7440-41-7	9.03E-4	U	0.00272
Cadmium	7440-43-9	0.00215	U	0.0630
Chromium	7440-47-3	0.846	U	1.88
Cobalt	7440-48-4	0.0224	U	0.0371
Copper	7440-50-8	0.942	U	2.24
Lead	7439-92-1	0.0322	U	0.182
Manganese	7439-96-5	0.699	U	1.61
Molybdenum	7439-98-7	0.185	U	0.305
Nickel	7440-02-0	0.414	U	0.554
Selenium	7782-49-2	0.00463	U	0.00762
Thallium	7440-28-0	1.29E-4	U	5.01E-4
Vanadium	7440-62-2	0.0372	U	0.0450
Zinc	7440-66-6	3.75	U	65.3

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112324-HM
Matrix: Air
Lab ID: 4120531-10
Sample Volume: 1946.379 m³
Filter ID:
Sampled: 11/23/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 02:57

Comments: Q8537011 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.208**		**0.00783**
Barium	**7440-39-3**	**4.85**	QB-01	**0.894**
Beryllium	**7440-41-7**	**0.0110**		**0.00267**
Cadmium	7440-43-9	0.0165	U	0.0619
Chromium	**7440-47-3**	**3.22**		**1.85**
Cobalt	**7440-48-4**	**0.417**		**0.0364**
Copper	**7440-50-8**	**36.7**		**2.20**
Lead	**7439-92-1**	**0.535**		**0.179**
Manganese	**7439-96-5**	**11.5**		**1.58**
Molybdenum	**7439-98-7**	**2.53**		**0.300**
Nickel	**7440-02-0**	**2.03**		**0.545**
Selenium	**7782-49-2**	**0.142**		**0.00749**
Thallium	**7440-28-0**	**0.00147**		**4.92E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0442**
Zinc	7440-66-6	14.3	U	64.2

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112324-HM
Matrix: Air
Lab ID: 4120531-11
Sample Volume: 2017.956 m³
Filter ID:
Sampled: 11/23/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 03:12

Comments: Q8537009 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.241**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.367**		**0.00755**
Barium	**7440-39-3**	**9.76**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.0309**		**0.00258**
Cadmium	7440-43-9	0.0274	U	0.0597
Chromium	**7440-47-3**	**4.75**		**1.78**
Cobalt	**7440-48-4**	**1.16**		**0.0352**
Copper	**7440-50-8**	**44.0**		**2.12**
Lead	**7439-92-1**	**1.19**		**0.173**
Manganese	**7439-96-5**	**29.2**		**1.52**
Molybdenum	**7439-98-7**	**2.62**		**0.289**
Nickel	**7440-02-0**	**3.39**		**0.526**
Selenium	**7782-49-2**	**0.217**		**0.00722**
Thallium	**7440-28-0**	**0.00224**		**4.75E-4**
Vanadium	**7440-62-2**	**3.36**		**0.0427**
Zinc	7440-66-6	21.7	U	61.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112324-HM
Matrix: Air
Lab ID: 4120531-12
Sample Volume: 1918.398 m³
Filter ID:
Sampled: 11/23/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 04:44

Comments: Q8537008 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.186**		**0.00795**
Barium	**7440-39-3**	**4.28**	QB-01	**0.907**
Beryllium	**7440-41-7**	**0.0220**		**0.00271**
Cadmium	7440-43-9	0.0158	U	0.0628
Chromium	**7440-47-3**	**3.32**		**1.87**
Cobalt	**7440-48-4**	**0.568**		**0.0370**
Copper	**7440-50-8**	**67.1**		**2.23**
Lead	**7439-92-1**	**0.489**		**0.181**
Manganese	**7439-96-5**	**13.2**		**1.60**
Molybdenum	**7439-98-7**	**3.66**		**0.304**
Nickel	**7440-02-0**	**2.13**		**0.553**
Selenium	**7782-49-2**	**0.160**		**0.00760**
Thallium	**7440-28-0**	**0.00167**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0449**
Zinc	7440-66-6	10.9	U	65.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112324-HM
Matrix: Air
Lab ID: 4120531-13
Sample Volume: 1878.603 m³
Filter ID:
Sampled: 11/23/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/06/24 18:15

Comments: Q8537007 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.311**		**0.00812**
Barium	**7440-39-3**	**5.68**	QB-01	**0.927**
Beryllium	**7440-41-7**	**0.0283**		**0.00277**
Cadmium	7440-43-9	0.0151	U	0.0642
Chromium	**7440-47-3**	**3.17**		**1.91**
Cobalt	**7440-48-4**	**0.720**		**0.0378**
Copper	**7440-50-8**	**28.3**		**2.28**
Lead	**7439-92-1**	**0.969**		**0.185**
Manganese	**7439-96-5**	**24.2**		**1.64**
Molybdenum	**7439-98-7**	**1.32**		**0.311**
Nickel	**7440-02-0**	**1.93**		**0.565**
Selenium	**7782-49-2**	**0.206**		**0.00776**
Thallium	**7440-28-0**	**0.00188**		**5.10E-4**
Vanadium	**7440-62-2**	**1.90**		**0.0458**
Zinc	7440-66-6	11.4	U	66.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112424-HM
Matrix: Air
Lab ID: 4120531-14
Sample Volume: 1922.391 m³
Filter ID:
Sampled: 11/24/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 05:03

Comments: Q8537003 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0997**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.176**		**0.00793**
Barium	**7440-39-3**	**3.86**	QB-01	**0.906**
Beryllium	**7440-41-7**	**0.00966**		**0.00271**
Cadmium	7440-43-9	0.0112	U	0.0627
Chromium	**7440-47-3**	**2.35**		**1.87**
Cobalt	**7440-48-4**	**0.362**		**0.0369**
Copper	**7440-50-8**	**30.8**		**2.23**
Lead	**7439-92-1**	**0.506**		**0.181**
Manganese	**7439-96-5**	**10.6**		**1.60**
Molybdenum	**7439-98-7**	**2.26**		**0.304**
Nickel	**7440-02-0**	**1.56**		**0.552**
Selenium	**7782-49-2**	**0.150**		**0.00758**
Thallium	**7440-28-0**	**0.00137**	QB-04	**4.98E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0448**
Zinc	7440-66-6	9.92	U	65.0

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112424-HM
Matrix: Air
Lab ID: 4120531-15
Sample Volume: 2070.764 m³
Filter ID:
Sampled: 11/24/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 05:18

Comments: Q8537001 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.258**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.230**		**0.00736**
Barium	**7440-39-3**	**6.91**	QB-01	**0.841**
Beryllium	**7440-41-7**	**0.0119**		**0.00251**
Cadmium	**7440-43-9**	**0.128**		**0.0582**
Chromium	**7440-47-3**	**2.42**		**1.74**
Cobalt	**7440-48-4**	**0.426**		**0.0343**
Copper	**7440-50-8**	**53.6**		**2.07**
Lead	**7439-92-1**	**0.948**		**0.168**
Manganese	**7439-96-5**	**13.9**		**1.48**
Molybdenum	**7439-98-7**	**3.56**		**0.282**
Nickel	**7440-02-0**	**1.57**		**0.512**
Selenium	**7782-49-2**	**0.170**		**0.00704**
Thallium	**7440-28-0**	**0.00148**	QB-04	**4.63E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0416**
Zinc	7440-66-6	18.3	U	60.3

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112424-HM
Matrix: Air
Lab ID: 4120531-16
Sample Volume: 1948.294 m³
Filter ID:
Sampled: 11/24/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 05:33

Comments: Q8536999 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0540**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.214**		**0.00782**
Barium	**7440-39-3**	**2.42**	QB-01	**0.894**
Beryllium	**7440-41-7**	**0.00954**		**0.00267**
Cadmium	7440-43-9	0.00639	U	0.0619
Chromium	**7440-47-3**	**1.93**		**1.85**
Cobalt	**7440-48-4**	**0.270**		**0.0364**
Copper	**7440-50-8**	**45.1**		**2.20**
Lead	**7439-92-1**	**0.401**		**0.179**
Manganese	**7439-96-5**	**7.20**		**1.58**
Molybdenum	**7439-98-7**	**2.77**		**0.300**
Nickel	**7440-02-0**	**1.22**		**0.544**
Selenium	**7782-49-2**	**0.132**		**0.00748**
Thallium	**7440-28-0**	**0.00116**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0442**
Zinc	7440-66-6	7.55	U	64.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112424-HM
Matrix: Air
Lab ID: 4120531-17
Sample Volume: 1624.757 m³
Filter ID:
Sampled: 11/24/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 05:47

Comments: Q8536998 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0748**	SL	**0.0387**
Arsenic	**7440-38-2**	**0.280**		**0.00938**
Barium	**7440-39-3**	**3.64**	QB-01	**1.07**
Beryllium	**7440-41-7**	**0.0177**		**0.00320**
Cadmium	7440-43-9	0.0111	U	0.0742
Chromium	**7440-47-3**	**2.53**		**2.21**
Cobalt	**7440-48-4**	**0.455**		**0.0437**
Copper	**7440-50-8**	**20.0**		**2.63**
Lead	**7439-92-1**	**0.436**		**0.214**
Manganese	**7439-96-5**	**17.0**		**1.89**
Molybdenum	**7439-98-7**	**1.26**		**0.359**
Nickel	**7440-02-0**	**1.50**		**0.653**
Selenium	**7782-49-2**	**0.168**		**0.00897**
Thallium	**7440-28-0**	**0.00142**	QB-04	**5.90E-4**
Vanadium	**7440-62-2**	**1.59**		**0.0530**
Zinc	7440-66-6	8.09	U	76.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-112424-HM
Matrix: Air
Lab ID: 4120531-18
Sample Volume: 1922.391 m³
Filter ID:
Sampled: 11/24/24 00:00
Received: 12/05/24 11:40
Analysis Date: 12/07/24 06:03

Comments: Q8536995 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	FB-01, SL	**0.0327**
Arsenic	**7440-38-2**	**0.0115**	FB-01	**0.00793**
Barium	**7440-39-3**	**0.965**	FB-01, QB-01	**0.906**
Beryllium	7440-41-7	7.07E-4	U	0.00271
Cadmium	7440-43-9	0.00198	U	0.0627
Chromium	7440-47-3	1.01	U	1.87
Cobalt	7440-48-4	0.0259	U	0.0369
Copper	7440-50-8	0.727	U	2.23
Lead	7439-92-1	0.0384	U	0.181
Manganese	7439-96-5	0.650	U	1.60
Molybdenum	7439-98-7	0.158	U	0.304
Nickel	7440-02-0	0.486	U	0.552
Selenium	7782-49-2	0.00499	U	0.00758
Thallium	7440-28-0	1.57E-4	QB-04, U	4.98E-4
Vanadium	7440-62-2	0.0434	U	0.0448
Zinc	7440-66-6	4.45	U	65.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112524-HM
Matrix: Air
Lab ID: 4120531-19
Sample Volume: 1942.15 m³
Filter ID:
Sampled: 11/25/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 06:17

Comments: Q8536997 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.290**		**0.00785**
Barium	**7440-39-3**	**7.20**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.0219**		**0.00268**
Cadmium	7440-43-9	0.0173	U	0.0621
Chromium	**7440-47-3**	**5.76**		**1.85**
Cobalt	**7440-48-4**	**0.973**		**0.0365**
Copper	**7440-50-8**	**39.8**		**2.20**
Lead	**7439-92-1**	**0.562**		**0.179**
Manganese	**7439-96-5**	**23.8**		**1.58**
Molybdenum	**7439-98-7**	**2.82**		**0.301**
Nickel	**7440-02-0**	**3.93**		**0.546**
Selenium	**7782-49-2**	**0.174**		**0.00751**
Thallium	**7440-28-0**	**0.00175**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**2.83**		**0.0443**
Zinc	7440-66-6	19.1	U	64.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112524-HM
Matrix: Air
Lab ID: 4120531-20
Sample Volume: 2095.618 m³
Filter ID:
Sampled: 11/25/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 06:33

Comments: Q8536996 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.218**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.365**		**0.00727**
Barium	**7440-39-3**	**9.26**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.0263**		**0.00248**
Cadmium	7440-43-9	0.0213	U	0.0575
Chromium	**7440-47-3**	**4.20**		**1.72**
Cobalt	**7440-48-4**	**0.968**		**0.0339**
Copper	**7440-50-8**	**56.1**		**2.04**
Lead	**7439-92-1**	**1.30**		**0.166**
Manganese	**7439-96-5**	**26.2**		**1.47**
Molybdenum	**7439-98-7**	**2.51**		**0.279**
Nickel	**7440-02-0**	**2.91**		**0.506**
Selenium	**7782-49-2**	**0.189**		**0.00696**
Thallium	**7440-28-0**	**0.00185**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**2.94**		**0.0411**
Zinc	7440-66-6	40.3	U	59.6

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112524-HM
Matrix: Air
Lab ID: 4120531-21
Sample Volume: 1941.764 m³
Filter ID:
Sampled: 11/25/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 07:04

Comments: Q8536994 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0585**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.199**		**0.00785**
Barium	**7440-39-3**	**4.64**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.0351**		**0.00268**
Cadmium	7440-43-9	0.0176	U	0.0621
Chromium	**7440-47-3**	**8.01**		**1.85**
Cobalt	**7440-48-4**	**0.907**		**0.0365**
Copper	**7440-50-8**	**71.6**		**2.20**
Lead	**7439-92-1**	**0.628**		**0.179**
Manganese	**7439-96-5**	**20.7**		**1.58**
Molybdenum	**7439-98-7**	**3.20**		**0.301**
Nickel	**7440-02-0**	**5.83**		**0.546**
Selenium	**7782-49-2**	**0.200**		**0.00751**
Thallium	**7440-28-0**	**0.00167**	QB-04	**4.94E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0443**
Zinc	7440-66-6	15.5	U	64.4

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112524-HM
Matrix: Air
Lab ID: 4120531-22
Sample Volume: 1814.786 m³
Filter ID:
Sampled: 11/25/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 08:35

Comments: Q8536991 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.660**		**0.00840**
Barium	**7440-39-3**	**6.07**	QB-01	**0.959**
Beryllium	**7440-41-7**	**0.0310**		**0.00287**
Cadmium	7440-43-9	0.0210	U	0.0664
Chromium	**7440-47-3**	**5.29**		**1.98**
Cobalt	**7440-48-4**	**1.06**		**0.0391**
Copper	**7440-50-8**	**31.0**		**2.36**
Lead	**7439-92-1**	**0.867**		**0.192**
Manganese	**7439-96-5**	**35.4**		**1.69**
Molybdenum	**7439-98-7**	**1.45**		**0.322**
Nickel	**7440-02-0**	**2.69**		**0.585**
Selenium	**7782-49-2**	**0.228**		**0.00803**
Thallium	**7440-28-0**	**0.00248**	QB-04	**5.28E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0474**
Zinc	7440-66-6	24.0	LJ, QX, U	68.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112624-HM
Matrix: Air
Lab ID: 4120531-23
Sample Volume: 1875.08 m³
Filter ID:
Sampled: 11/26/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 08:51

Comments: Q8536989 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.791**		**0.00813**
Barium	**7440-39-3**	**16.7**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0697**		**0.00278**
Cadmium	7440-43-9	0.0427	U	0.0643
Chromium	**7440-47-3**	**12.1**		**1.92**
Cobalt	**7440-48-4**	**3.09**		**0.0378**
Copper	**7440-50-8**	**42.8**		**2.28**
Lead	**7439-92-1**	**1.17**		**0.186**
Manganese	**7439-96-5**	**72.2**		**1.64**
Molybdenum	**7439-98-7**	**2.58**		**0.312**
Nickel	**7440-02-0**	**9.63**		**0.566**
Selenium	**7782-49-2**	**0.384**		**0.00777**
Thallium	**7440-28-0**	**0.00368**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**8.56**		**0.0459**
Zinc	7440-66-6	29.6	LJ, QX, U	66.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112624-HM
Matrix: Air
Lab ID: 4120531-24
Sample Volume: 2058.644 m³
Filter ID:
Sampled: 11/26/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 09:11

Comments: Q8536988 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.247**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.613**		**0.00741**
Barium	**7440-39-3**	**15.3**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.0425**		**0.00253**
Cadmium	7440-43-9	0.0297	U	0.0586
Chromium	**7440-47-3**	**6.66**		**1.75**
Cobalt	**7440-48-4**	**1.61**		**0.0345**
Copper	**7440-50-8**	**70.3**		**2.08**
Lead	**7439-92-1**	**2.60**		**0.169**
Manganese	**7439-96-5**	**46.0**		**1.49**
Molybdenum	**7439-98-7**	**2.65**		**0.284**
Nickel	**7440-02-0**	**4.73**		**0.515**
Selenium	**7782-49-2**	**0.319**		**0.00708**
Thallium	**7440-28-0**	**0.00254**	QB-04	**4.66E-4**
Vanadium	**7440-62-2**	**5.08**		**0.0418**
Zinc	7440-66-6	41.3	LJ, QX, U	60.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112624-HM
Matrix: Air
Lab ID: 4120531-25
Sample Volume: 1927.117 m³
Filter ID:
Sampled: 11/26/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 09:29

Comments: Q8536987 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0740**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.260**		**0.00791**
Barium	**7440-39-3**	**4.87**	QB-01	**0.903**
Beryllium	**7440-41-7**	**0.0461**		**0.00270**
Cadmium	7440-43-9	0.0157	U	0.0626
Chromium	**7440-47-3**	**5.33**		**1.87**
Cobalt	**7440-48-4**	**1.08**		**0.0368**
Copper	**7440-50-8**	**61.7**		**2.22**
Lead	**7439-92-1**	**0.657**		**0.181**
Manganese	**7439-96-5**	**25.7**		**1.60**
Molybdenum	**7439-98-7**	**3.59**		**0.303**
Nickel	**7440-02-0**	**3.20**		**0.550**
Selenium	**7782-49-2**	**0.252**		**0.00756**
Thallium	**7440-28-0**	**0.00198**	QB-04	**4.97E-4**
Vanadium	**7440-62-2**	**2.51**		**0.0447**
Zinc	7440-66-6	14.1	LJ, QX, U	64.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112624-HM
Matrix: Air
Lab ID: 4120531-26
Sample Volume: 1862.612 m³
Filter ID:
Sampled: 11/26/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 09:45

Comments: Q8536986 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.141**	SL	**0.0337**
Arsenic	**7440-38-2**	**1.43**	LJ, QX	**0.00818**
Barium	**7440-39-3**	**11.3**	QB-01	**0.935**
Beryllium	**7440-41-7**	**0.0750**		**0.00280**
Cadmium	7440-43-9	0.0376	LJ, QX, U	0.0647
Chromium	**7440-47-3**	**10.2**		**1.93**
Cobalt	**7440-48-4**	**2.50**		**0.0381**
Copper	**7440-50-8**	**24.1**		**2.30**
Lead	**7439-92-1**	**1.34**		**0.187**
Manganese	**7439-96-5**	**82.6**		**1.65**
Molybdenum	**7439-98-7**	**1.08**	LJ, QX	**0.314**
Nickel	**7440-02-0**	**5.63**		**0.570**
Selenium	**7782-49-2**	**0.447**	LJ, QX	**0.00783**
Thallium	**7440-28-0**	**0.00423**	QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**6.61**		**0.0462**
Zinc	7440-66-6	43.4	LJ, QX, U	67.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-112624-HM **Lab ID:** 4120531-27 **Sampled:** 11/26/24 00:00
Matrix: Air **Sample Volume:** 1875.08 m³ **Received:** 12/05/24 11:40
Filter ID: **Analysis Date:** 12/07/24 10:05

Comments: Q9552334 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0138	SL, U	0.0335
Arsenic	**7440-38-2**	**0.0124**	FB-01	**0.00813**
Barium	7440-39-3	0.538	QB-01, U	0.928
Beryllium	7440-41-7	0.00130	U	0.00278
Cadmium	7440-43-9	0.00212	U	0.0643
Chromium	7440-47-3	1.26	U	1.92
Cobalt	7440-48-4	0.0352	U	0.0378
Copper	7440-50-8	0.904	U	2.28
Lead	7439-92-1	0.0632	U	0.186
Manganese	7439-96-5	0.592	U	1.64
Molybdenum	7439-98-7	0.234	U	0.312
Nickel	7440-02-0	0.344	U	0.566
Selenium	7782-49-2	0.00664	U	0.00777
Thallium	7440-28-0	1.24E-4	QB-04, U	5.11E-4
Vanadium	7440-62-2	0.0335	U	0.0459
Zinc	7440-66-6	3.55	LJ, QX, U	66.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-112624-HM
Matrix: Air
Lab ID: 4120531-28
Sample Volume: 1875.08 m³
Filter ID:
Sampled: 11/26/24 00:00
Received: 12/05/24 11:40
Analysis Date: 12/07/24 10:18

Comments: Q9552335 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0152	SL, U	0.0335
Arsenic	**7440-38-2**	**0.0112**		**0.00813**
Barium	7440-39-3	0.498	QB-01, U	0.928
Beryllium	7440-41-7	7.92E-4	U	0.00278
Cadmium	7440-43-9	0.00206	U	0.0643
Chromium	7440-47-3	1.38	U	1.92
Cobalt	7440-48-4	0.0337	U	0.0378
Copper	7440-50-8	1.11	U	2.28
Lead	7439-92-1	0.0584	U	0.186
Manganese	7439-96-5	0.546	U	1.64
Molybdenum	7439-98-7	0.237	U	0.312
Nickel	7440-02-0	0.410	U	0.566
Selenium	7782-49-2	0.00517	U	0.00777
Thallium	7440-28-0	1.06E-4	QB-04, U	5.11E-4
Vanadium	7440-62-2	0.0303	U	0.0459
Zinc	7440-66-6	2.76	LJ, QX, U	66.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-112724-HM
Matrix: Air
Lab ID: 4120531-29
Sample Volume: 1918.372 m³
Filter ID:
Sampled: 11/27/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 10:32

Comments: Q9552339 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0948**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.850**		**0.00795**
Barium	**7440-39-3**	**17.1**	QB-01	**0.907**
Beryllium	**7440-41-7**	**0.0767**		**0.00271**
Cadmium	7440-43-9	0.0338	U	0.0628
Chromium	**7440-47-3**	**14.9**		**1.87**
Cobalt	**7440-48-4**	**3.79**		**0.0370**
Copper	**7440-50-8**	**37.7**		**2.23**
Lead	**7439-92-1**	**0.893**		**0.181**
Manganese	**7439-96-5**	**83.9**		**1.60**
Molybdenum	**7439-98-7**	**1.90**		**0.304**
Nickel	**7440-02-0**	**10.3**		**0.553**
Selenium	**7782-49-2**	**0.413**		**0.00760**
Thallium	**7440-28-0**	**0.00368**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**10.3**	E	**0.0449**
Zinc	7440-66-6	23.4	LJ, QX, U	65.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-112724-HM
Matrix: Air
Lab ID: 4120531-30
Sample Volume: 2133.393 m³
Filter ID:
Sampled: 11/27/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 10:49

Comments: Q9552338 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.754**		**0.00715**
Barium	**7440-39-3**	**13.9**	QB-01	**0.816**
Beryllium	**7440-41-7**	**0.0543**		**0.00244**
Cadmium	7440-43-9	0.0547	U	0.0565
Chromium	**7440-47-3**	**7.17**		**1.69**
Cobalt	**7440-48-4**	**1.72**		**0.0333**
Copper	**7440-50-8**	**62.5**		**2.01**
Lead	**7439-92-1**	**3.97**		**0.163**
Manganese	**7439-96-5**	**53.6**		**1.44**
Molybdenum	**7439-98-7**	**2.05**		**0.274**
Nickel	**7440-02-0**	**4.36**		**0.497**
Selenium	**7782-49-2**	**0.339**		**0.00683**
Thallium	**7440-28-0**	**0.00269**	QB-04	**4.49E-4**
Vanadium	**7440-62-2**	**5.61**		**0.0403**
Zinc	7440-66-6	53.5	LJ, QX, U	58.6

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-112724-HM
Matrix: Air
Lab ID: 4120531-31
Sample Volume: 1945.036 m³
Filter ID:
Sampled: 11/27/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 12:28

Comments: Q9552337 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0495**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.253**		**0.00784**
Barium	**7440-39-3**	**4.43**	QB-01	**0.895**
Beryllium	**7440-41-7**	**0.0500**		**0.00268**
Cadmium	7440-43-9	0.0155	U	0.0620
Chromium	**7440-47-3**	**5.81**		**1.85**
Cobalt	**7440-48-4**	**1.20**		**0.0365**
Copper	**7440-50-8**	**48.5**		**2.20**
Lead	**7439-92-1**	**0.389**		**0.179**
Manganese	**7439-96-5**	**28.2**		**1.58**
Molybdenum	**7439-98-7**	**2.20**		**0.300**
Nickel	**7440-02-0**	**3.25**		**0.545**
Selenium	**7782-49-2**	**0.257**		**0.00749**
Thallium	**7440-28-0**	**0.00187**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**2.66**		**0.0443**
Zinc	7440-66-6	10.6	LJ, QX, U	64.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-112724-HM
Matrix: Air
Lab ID: 4120531-32
Sample Volume: 1874.411 m³
Filter ID:
Sampled: 11/27/24 23:59
Received: 12/05/24 11:40
Analysis Date: 12/07/24 13:01

Comments: Q9552333 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0789**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.749**		**0.00813**
Barium	**7440-39-3**	**6.49**	QB-01	**0.929**
Beryllium	**7440-41-7**	**0.0383**		**0.00278**
Cadmium	**7440-43-9**	**0.0665**		**0.0643**
Chromium	**7440-47-3**	**6.04**		**1.92**
Cobalt	**7440-48-4**	**1.26**		**0.0378**
Copper	**7440-50-8**	**18.3**		**2.28**
Lead	**7439-92-1**	**0.888**		**0.186**
Manganese	**7439-96-5**	**42.2**		**1.64**
Molybdenum	**7439-98-7**	**1.05**		**0.312**
Nickel	**7440-02-0**	**2.93**		**0.566**
Selenium	**7782-49-2**	**0.277**		**0.00778**
Thallium	**7440-28-0**	**0.00232**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**3.41**		**0.0459**
Zinc	7440-66-6	15.4	LJ, QX, U	66.7

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Blank (2412020-CCB1)				Prepared & Analyzed: 12/06/24						
Antimony	0.378		ng/l							
Arsenic	3.34		ng/l							
Barium	0.850		ng/l							
Beryllium	-0.309		ng/l							U
Cadmium	0.0826		ng/l							
Chromium	0.622		ng/l							
Cobalt	0.249		ng/l							
Copper	9.69		ng/l							
Lead	1.94		ng/l							
Manganese	3.02		ng/l							
Molybdenum	21.3		ng/l							
Nickel	-1.73		ng/l							U
Selenium	4.36		ng/l							
Thallium	1.32		ng/l							
Vanadium	-68.1		ng/l							U
Zinc	-47.4		ng/l							U
Calibration Blank (2412020-CCB2)				Prepared & Analyzed: 12/06/24						
Antimony	0.405		ng/l							
Arsenic	-1.01		ng/l							U
Barium	1.45		ng/l							
Beryllium	-0.672		ng/l							U
Cadmium	0.192		ng/l							
Chromium	1.49		ng/l							
Cobalt	0.242		ng/l							
Copper	12.2		ng/l							
Lead	1.38		ng/l							
Manganese	3.55		ng/l							
Molybdenum	1.04		ng/l							
Nickel	0.474		ng/l							
Selenium	8.74		ng/l							
Thallium	1.01		ng/l							
Vanadium	-77.7		ng/l							U
Zinc	-67.1		ng/l							U
Calibration Blank (2412020-CCB3)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	0.613		ng/l							
Arsenic	2.90		ng/l							
Barium	1.89		ng/l							
Beryllium	-1.01		ng/l							U

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REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Blank (2412020-CCB3) Contin				Prepared: 12/06/24 Analyzed: 12/07/24						
Cadmium	0.123		ng/l							
Chromium	3.28		ng/l							
Cobalt	0.371		ng/l							
Copper	28.9		ng/l							
Lead	2.13		ng/l							
Manganese	5.61		ng/l							
Molybdenum	2.08		ng/l							
Nickel	-0.582		ng/l							U
Selenium	7.86		ng/l							
Thallium	1.19		ng/l							
Vanadium	-85.0		ng/l							U
Zinc	-54.7		ng/l							U
Calibration Blank (2412020-CCB4)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	0.488		ng/l							
Arsenic	2.45		ng/l							
Barium	1.30		ng/l							
Beryllium	-1.09		ng/l							U
Cadmium	0.115		ng/l							
Chromium	1.07		ng/l							
Cobalt	0.253		ng/l							
Copper	17.0		ng/l							
Lead	1.48		ng/l							
Manganese	3.41		ng/l							
Molybdenum	4.09		ng/l							
Nickel	1.04		ng/l							
Selenium	5.15		ng/l							
Thallium	1.32		ng/l							
Vanadium	-91.6		ng/l							U
Zinc	-59.8		ng/l							U
Calibration Blank (2412020-CCB5)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	0.878		ng/l							
Arsenic	3.57		ng/l							
Barium	1.65		ng/l							
Beryllium	-1.46		ng/l							U
Cadmium	0.0298		ng/l							
Chromium	2.72		ng/l							
Cobalt	0.292		ng/l							
Copper	18.4		ng/l							

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REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Blank (2412020-CCB5) Contin				Prepared: 12/06/24 Analyzed: 12/07/24						
Lead	1.43		ng/l							
Manganese	3.44		ng/l							
Molybdenum	3.47		ng/l							
Nickel	3.22		ng/l							
Selenium	5.75		ng/l							
Thallium	1.46		ng/l							QB-04
Vanadium	-98.8		ng/l							U
Zinc	-53.9		ng/l							U
Calibration Blank (2412020-CCB6)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	0.903		ng/l							
Arsenic	2.72		ng/l							
Barium	2.26		ng/l							
Beryllium	-1.49		ng/l							U
Cadmium	0.101		ng/l							
Chromium	1.85		ng/l							
Cobalt	0.413		ng/l							
Copper	19.2		ng/l							
Lead	2.76		ng/l							
Manganese	4.35		ng/l							
Molybdenum	2.80		ng/l							
Nickel	5.69		ng/l							
Selenium	0.653		ng/l							
Thallium	1.37		ng/l							QB-04
Vanadium	-101		ng/l							U
Zinc	-48.5		ng/l							U
Calibration Blank (2412020-CCB7)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	1.05		ng/l							
Arsenic	2.32		ng/l							
Barium	2.14		ng/l							
Beryllium	-1.24		ng/l							U
Cadmium	0.0664		ng/l							
Chromium	1.74		ng/l							
Cobalt	0.360		ng/l							
Copper	18.4		ng/l							
Lead	2.39		ng/l							
Manganese	3.86		ng/l							
Molybdenum	3.04		ng/l							
Nickel	5.62		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Blank (2412020-CCB7) Contin				Prepared: 12/06/24 Analyzed: 12/07/24						
Selenium	17.3		ng/l							
Thallium	1.64		ng/l							QB-04
Vanadium	-98.3		ng/l							U
Zinc	-37.3		ng/l							U
Calibration Check (2412020-CCV1)				Prepared & Analyzed: 12/06/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4860		ng/l	5000.0		97.3	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	527000		ng/l	500000		105	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	508		ng/l	500.00		102	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2412020-CCV2)				Prepared & Analyzed: 12/06/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5260		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	545000		ng/l	500000		109	90-110			

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Check (2412020-CCV3)				Prepared & Analyzed: 12/06/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	51800		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	540000		ng/l	500000		108	90-110			
Calibration Check (2412020-CCV4)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	209000		ng/l	200000		104	90-110			
Manganese	531000		ng/l	500000		106	90-110			
Molybdenum	52700		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20900		ng/l	20000		105	90-110			
Thallium	508		ng/l	500.00		102	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	549000		ng/l	500000		110	90-110			
Calibration Check (2412020-CCV5)				Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Check (2412020-CCV5) Contin					Prepared: 12/06/24 Analyzed: 12/07/24					
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	52500		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2412020-CCV6)					Prepared: 12/06/24 Analyzed: 12/07/24					
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	21200		ng/l	20000		106	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	21500		ng/l	20000		107	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	53200		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			
Lead	212000		ng/l	200000		106	90-110			
Manganese	541000		ng/l	500000		108	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	21100		ng/l	20000		106	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	558000		ng/l	500000		112	90-110			LJ, QX
Calibration Check (2412020-CCV7)					Prepared: 12/06/24 Analyzed: 12/07/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Calibration Check (2412020-CCV7) Contin					Prepared: 12/06/24 Analyzed: 12/07/24					
Lead	210000		ng/l	200000		105	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	52200		ng/l	50000		104	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	547000		ng/l	500000		109	90-110			
High Cal Check (2412020-HCV1)					Prepared & Analyzed: 12/06/24					
Antimony	40500		ng/l	40000		101	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	402000		ng/l	400000		100	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	481000		ng/l	480000		100	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.8	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40500		ng/l	40000		101	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40400		ng/l	40000		101	95-105			
Zinc	995000		ng/l	1.0000E6		99.5	95-105			
Initial Cal Blank (2412020-ICB1)					Prepared & Analyzed: 12/06/24					
Antimony	0.774		ng/l							
Arsenic	0.235		ng/l							
Barium	3.34		ng/l							
Beryllium	-0.469		ng/l							U
Cadmium	0.321		ng/l							
Chromium	4.34		ng/l							
Cobalt	0.581		ng/l							
Copper	35.8		ng/l							
Lead	4.26		ng/l							
Manganese	11.7		ng/l							
Molybdenum	8.81		ng/l							
Nickel	-0.923		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Initial Cal Blank (2412020-ICB1) Continu				Prepared & Analyzed: 12/06/24						
Selenium	2.65		ng/l							
Thallium	1.06		ng/l							
Vanadium	-64.7		ng/l							U
Zinc	-52.3		ng/l							U
Initial Cal Check (2412020-ICV1)				Prepared & Analyzed: 12/06/24						
Antimony	19600		ng/l	20000		97.8	90-110			
Arsenic	19600		ng/l	20000		98.0	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	48500		ng/l	50000		96.9	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Interference Check A (2412020-IFA1)				Prepared & Analyzed: 12/06/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	322000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412020 - B4L0602										
Interference Check B (2412020-IFB1)				Prepared & Analyzed: 12/06/24						
Antimony	21100		ng/l	20000		105	80-120			
Arsenic	21100		ng/l	20000		106	80-120			
Barium	210000		ng/l	200000		105	80-120			
Beryllium	4700		ng/l	5000.0		94.0	80-120			
Cadmium	20400		ng/l	20000		102	80-120			
Chromium	240000		ng/l	240000		99.9	80-120			
Cobalt	51400		ng/l	50000		103	80-120			
Copper	1.98E6		ng/l	2.0000E6		98.8	80-120			
Lead	212000		ng/l	200000		106	80-120			
Manganese	535000		ng/l	500000		107	80-120			
Molybdenum	385000		ng/l	350000		110	80-120			
Nickel	120000		ng/l	120000		100	80-120			
Selenium	19900		ng/l	20000		99.4	80-120			
Thallium	536		ng/l	500.00		107	80-120			
Vanadium	20200		ng/l	20000		101	80-120			
Zinc	502000		ng/l	500000		100	80-120			
Batch B4L0602 - ICP-MS Extraction										
Blank (B4L0602-BLK1)				Prepared & Analyzed: 12/06/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4L0602-BS1)				Prepared & Analyzed: 12/06/24						
Antimony	0.604	0.0386	ng/m³ Air	1.3829		43.7	80-120			SL
Arsenic	2.78	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		103	80-120			QB-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
LCS (B4L0602-BS1) Continued					Prepared & Analyzed: 12/06/24					
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.4	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	16.0	2.21	ng/m³ Air	13.829		116	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	30.4	2.63	ng/m³ Air	27.658		110	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	9.12	1.89	ng/m³ Air	8.2975		110	80-120			
Molybdenum	1.59	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.14	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.80	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	94.5	76.8	ng/m³ Air	82.975		114	80-120			
LCS (B4L0602-BS2)					Prepared & Analyzed: 12/06/24					
Antimony	0.653	0.0386	ng/m³ Air	1.3829		47.2	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.9	1.07	ng/m³ Air	27.658		105	80-120			QB-01
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.6	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	30.1	2.63	ng/m³ Air	27.658		109	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	9.05	1.89	ng/m³ Air	8.2975		109	80-120			
Molybdenum	1.65	0.359	ng/m³ Air	1.3829		119	80-120			
Nickel	3.10	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.9	80-120			
Thallium	0.141	5.89E-4	ng/m³ Air	0.13829		102	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	94.3	76.8	ng/m³ Air	82.975		114	80-120			
Duplicate (B4L0602-DUP1)		**Source: 4120531-13**			Prepared & Analyzed: 12/06/24					
Antimony	0.0889	0.0334	ng/m³ Air		0.102			13.8	10	SL
Arsenic	0.307	0.00812	ng/m³ Air		0.311			1.31	10	
Barium	5.63	0.927	ng/m³ Air		5.68			0.862	10	QB-01
Beryllium	0.0278	0.00277	ng/m³ Air		0.0283			1.82	10	
Cadmium	ND	0.0642	ng/m³ Air		ND				10	U
Chromium	3.21	1.91	ng/m³ Air		3.17			1.04	10	
Cobalt	0.725	0.0378	ng/m³ Air		0.720			0.681	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Duplicate (B4L0602-DUP1) Continued			**Source: 4120531-13**		Prepared & Analyzed: 12/06/24					
Copper	29.5	2.28	ng/m³ Air		28.3			4.07	10	
Lead	0.974	0.185	ng/m³ Air		0.969			0.614	10	
Manganese	24.3	1.64	ng/m³ Air		24.2			0.224	10	
Molybdenum	1.33	0.311	ng/m³ Air		1.32			0.815	10	
Nickel	1.87	0.565	ng/m³ Air		1.93			2.84	10	
Selenium	0.199	0.00776	ng/m³ Air		0.206			3.26	10	
Thallium	0.00201	5.10E-4	ng/m³ Air		0.00188			6.66	10	
Vanadium	1.91	0.0458	ng/m³ Air		1.90			0.514	10	
Zinc	ND	66.5	ng/m³ Air		ND				10	U
Duplicate (B4L0602-DUP2)			**Source: 4120531-05**		Prepared & Analyzed: 12/06/24					
Antimony	0.109	0.0328	ng/m³ Air		0.104			4.76	10	SL
Arsenic	0.210	0.00797	ng/m³ Air		0.212			1.12	10	
Barium	4.58	0.910	ng/m³ Air		4.57			0.218	10	QB-01
Beryllium	0.0122	0.00272	ng/m³ Air		0.0125			2.22	10	
Cadmium	ND	0.0630	ng/m³ Air		ND				10	U
Chromium	2.59	1.88	ng/m³ Air		2.71			4.34	10	
Cobalt	0.464	0.0371	ng/m³ Air		0.474			2.16	10	
Copper	52.0	2.24	ng/m³ Air		50.2			3.35	10	
Lead	0.795	0.182	ng/m³ Air		0.671			17.0	10	
Manganese	12.6	1.61	ng/m³ Air		12.8			1.47	10	
Molybdenum	2.68	0.305	ng/m³ Air		2.57			4.31	10	
Nickel	1.47	0.554	ng/m³ Air		1.68			13.2	10	
Selenium	0.159	0.00762	ng/m³ Air		0.157			1.13	10	
Thallium	0.00138	5.01E-4	ng/m³ Air		0.00144			4.40	10	
Vanadium	1.50	0.0450	ng/m³ Air		1.53			2.12	10	
Zinc	ND	65.3	ng/m³ Air		ND				10	U
Duplicate (B4L0602-DUP3)			**Source: 4120531-20**		Prepared: 12/06/24 Analyzed: 12/07/24					
Antimony	0.220	0.0300	ng/m³ Air		0.218			0.860	10	SL
Arsenic	0.376	0.00727	ng/m³ Air		0.365			2.80	10	
Barium	9.50	0.831	ng/m³ Air		9.26			2.59	10	QB-01
Beryllium	0.0240	0.00248	ng/m³ Air		0.0263			9.11	10	
Cadmium	ND	0.0575	ng/m³ Air		ND				10	U
Chromium	4.33	1.72	ng/m³ Air		4.20			3.07	10	
Cobalt	0.995	0.0339	ng/m³ Air		0.968			2.80	10	
Copper	57.5	2.04	ng/m³ Air		56.1			2.54	10	
Lead	1.33	0.166	ng/m³ Air		1.30			2.45	10	
Manganese	27.0	1.47	ng/m³ Air		26.2			2.83	10	
Molybdenum	2.56	0.279	ng/m³ Air		2.51			2.22	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Duplicate (B4L0602-DUP3) Continued		**Source: 4120531-20**		Prepared: 12/06/24 Analyzed: 12/07/24						
Nickel	2.98	0.506	ng/m³ Air		2.91			2.36	10	
Selenium	0.207	0.00696	ng/m³ Air		0.189			8.93	10	
Thallium	0.00179	4.57E-4	ng/m³ Air		0.00185			3.56	10	QB-04
Vanadium	3.00	0.0411	ng/m³ Air		2.94			2.15	10	
Zinc	ND	59.6	ng/m³ Air		ND				10	U
Duplicate (B4L0602-DUP4)		**Source: 4120531-31**		Prepared: 12/06/24 Analyzed: 12/07/24						
Antimony	0.0489	0.0323	ng/m³ Air		0.0495			1.30	10	SL
Arsenic	0.256	0.00784	ng/m³ Air		0.253			1.02	10	
Barium	4.42	0.895	ng/m³ Air		4.43			0.277	10	QB-01
Beryllium	0.0532	0.00268	ng/m³ Air		0.0500			6.18	10	
Cadmium	ND	0.0620	ng/m³ Air		ND				10	U
Chromium	5.81	1.85	ng/m³ Air		5.81			0.0328	10	
Cobalt	1.22	0.0365	ng/m³ Air		1.20			1.28	10	
Copper	48.9	2.20	ng/m³ Air		48.5			0.756	10	
Lead	0.388	0.179	ng/m³ Air		0.389			0.0254	10	
Manganese	28.4	1.58	ng/m³ Air		28.2			0.741	10	
Molybdenum	2.20	0.300	ng/m³ Air		2.20			0.0202	10	
Nickel	3.28	0.545	ng/m³ Air		3.25			0.805	10	
Selenium	0.245	0.00749	ng/m³ Air		0.257			4.65	10	
Thallium	0.00188	4.93E-4	ng/m³ Air		0.00187			0.637	10	QB-04
Vanadium	2.68	0.0443	ng/m³ Air		2.66			0.576	10	
Zinc	ND	64.2	ng/m³ Air		ND				10	LJ, QX, U
Matrix Spike (B4L0602-MS1)		**Source: 4120531-13**		Prepared & Analyzed: 12/06/24						
Antimony	0.744	0.0334	ng/m³ Air	1.1977	0.102	53.6	80-120			SL
Arsenic	2.63	0.00812	ng/m³ Air	2.3954	0.311	96.8	80-120			
Barium	30.3	0.927	ng/m³ Air	23.954	5.68	103	80-120			QB-01
Beryllium	1.18	0.00277	ng/m³ Air	1.1977	0.0283	96.4	80-120			
Cadmium	1.23	0.0642	ng/m³ Air	1.1977	ND	103	80-120			
Chromium	15.7	1.91	ng/m³ Air	11.977	3.17	104	80-120			
Cobalt	1.93	0.0378	ng/m³ Air	1.1977	0.720	101	80-120			
Copper	53.8	2.28	ng/m³ Air	23.954	28.3	107	80-120			
Lead	13.4	0.185	ng/m³ Air	11.977	0.969	104	80-120			
Manganese	31.9	1.64	ng/m³ Air	7.1862	24.2	107	80-120			
Molybdenum	2.47	0.311	ng/m³ Air	1.1977	1.32	95.7	80-120			
Nickel	4.34	0.565	ng/m³ Air	2.3954	1.93	101	80-120			
Selenium	2.57	0.00776	ng/m³ Air	2.3954	0.206	98.6	80-120			
Thallium	0.124	5.10E-4	ng/m³ Air	0.11977	0.00188	102	80-120			
Vanadium	4.30	0.0458	ng/m³ Air	2.3954	1.90	100	80-120			

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Matrix Spike (B4L0602-MS1) Continued Source: 4120531-13 Prepared & Analyzed: 12/06/24										
Zinc	89.1	66.5	ng/m³ Air	71.862	ND	124	80-120			
Matrix Spike (B4L0602-MS2) Source: 4120531-05 Prepared & Analyzed: 12/06/24										
Antimony	0.775	0.0328	ng/m³ Air	1.1761	0.104	57.0	80-120			SL
Arsenic	2.49	0.00797	ng/m³ Air	2.3522	0.212	97.0	80-120			
Barium	28.6	0.910	ng/m³ Air	23.522	4.57	102	80-120			QB-01
Beryllium	1.15	0.00272	ng/m³ Air	1.1761	0.0125	96.6	80-120			
Cadmium	1.21	0.0630	ng/m³ Air	1.1761	ND	103	80-120			
Chromium	14.9	1.88	ng/m³ Air	11.761	2.71	103	80-120			
Cobalt	1.63	0.0371	ng/m³ Air	1.1761	0.474	98.2	80-120			
Copper	75.0	2.24	ng/m³ Air	23.522	50.2	105	80-120			
Lead	12.7	0.182	ng/m³ Air	11.761	0.671	102	80-120			
Manganese	19.9	1.61	ng/m³ Air	7.0566	12.8	101	80-120			
Molybdenum	3.80	0.305	ng/m³ Air	1.1761	2.57	105	80-120			
Nickel	3.93	0.554	ng/m³ Air	2.3522	1.68	95.6	80-120			
Selenium	2.47	0.00762	ng/m³ Air	2.3522	0.157	98.3	80-120			
Thallium	0.118	5.01E-4	ng/m³ Air	0.11761	0.00144	99.4	80-120			
Vanadium	3.78	0.0450	ng/m³ Air	2.3522	1.53	95.6	80-120			
Zinc	88.1	65.3	ng/m³ Air	70.566	ND	125	80-120			
Matrix Spike Dup (B4L0602-MSD1) Source: 4120531-13 Prepared & Analyzed: 12/06/24										
Antimony	0.711	0.0334	ng/m³ Air	1.1977	0.102	50.8	80-120	4.55	20	SL
Arsenic	2.65	0.00812	ng/m³ Air	2.3954	0.311	97.7	80-120	0.847	20	
Barium	29.9	0.927	ng/m³ Air	23.954	5.68	101	80-120	1.27	20	QB-01
Beryllium	1.17	0.00277	ng/m³ Air	1.1977	0.0283	95.1	80-120	1.34	20	
Cadmium	1.22	0.0642	ng/m³ Air	1.1977	ND	102	80-120	1.29	20	
Chromium	15.4	1.91	ng/m³ Air	11.977	3.17	102	80-120	1.64	20	
Cobalt	1.90	0.0378	ng/m³ Air	1.1977	0.720	98.7	80-120	1.30	20	
Copper	56.2	2.28	ng/m³ Air	23.954	28.3	117	80-120	4.45	20	
Lead	13.3	0.185	ng/m³ Air	11.977	0.969	103	80-120	0.677	20	
Manganese	31.4	1.64	ng/m³ Air	7.1862	24.2	99.9	80-120	1.67	20	
Molybdenum	2.52	0.311	ng/m³ Air	1.1977	1.32	100	80-120	2.16	20	
Nickel	4.26	0.565	ng/m³ Air	2.3954	1.93	97.5	80-120	1.88	20	
Selenium	2.56	0.00776	ng/m³ Air	2.3954	0.206	98.3	80-120	0.290	20	
Thallium	0.122	5.10E-4	ng/m³ Air	0.11977	0.00188	100	80-120	1.58	20	
Vanadium	4.24	0.0458	ng/m³ Air	2.3954	1.90	97.8	80-120	1.45	20	
Zinc	88.3	66.5	ng/m³ Air	71.862	ND	123	80-120	0.871	20	
Matrix Spike Dup (B4L0602-MSD2) Source: 4120531-05 Prepared & Analyzed: 12/06/24										
Antimony	0.803	0.0328	ng/m³ Air	1.1761	0.104	59.4	80-120	3.52	20	SL
Arsenic	2.55	0.00797	ng/m³ Air	2.3522	0.212	99.3	80-120	2.13	20	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Matrix Spike Dup (B4L0602-MSD2) Contir				**Source: 4120531-05**		Prepared & Analyzed: 12/06/24				
Barium	28.9	0.910	ng/m³ Air	23.522	4.57	103	80-120	0.918	20	QB-01
Beryllium	1.18	0.00272	ng/m³ Air	1.1761	0.0125	99.2	80-120	2.65	20	
Cadmium	1.23	0.0630	ng/m³ Air	1.1761	ND	104	80-120	1.50	20	
Chromium	15.0	1.88	ng/m³ Air	11.761	2.71	104	80-120	0.575	20	
Cobalt	1.64	0.0371	ng/m³ Air	1.1761	0.474	98.9	80-120	0.523	20	
Copper	75.4	2.24	ng/m³ Air	23.522	50.2	107	80-120	0.599	20	
Lead	12.8	0.182	ng/m³ Air	11.761	0.671	103	80-120	0.806	20	
Manganese	20.4	1.61	ng/m³ Air	7.0566	12.8	107	80-120	2.06	20	
Molybdenum	3.83	0.305	ng/m³ Air	1.1761	2.57	108	80-120	0.905	20	
Nickel	3.94	0.554	ng/m³ Air	2.3522	1.68	96.1	80-120	0.345	20	
Selenium	2.56	0.00762	ng/m³ Air	2.3522	0.157	102	80-120	3.79	20	
Thallium	0.120	5.01E-4	ng/m³ Air	0.11761	0.00144	101	80-120	1.77	20	
Vanadium	3.90	0.0450	ng/m³ Air	2.3522	1.53	101	80-120	3.05	20	
Zinc	88.4	65.3	ng/m³ Air	70.566	ND	125	80-120	0.335	20	
Post Spike (B4L0602-PS1)				**Source: 4120531-13**		Prepared & Analyzed: 12/06/24				
Antimony	0.334	0.0334	ng/m³ Air	0.23954	0.102	96.8	75-125			SL
Arsenic	1.46	0.00812	ng/m³ Air	1.1977	0.311	95.7	75-125			
Barium	8.01	0.927	ng/m³ Air	2.3954	5.68	97.3	75-125			QB-01
Beryllium	0.261	0.00277	ng/m³ Air	0.23954	0.0283	97.3	75-125			
Cadmium	0.135	0.0642	ng/m³ Air	0.11977	ND	113	75-125			
Chromium	4.40	1.91	ng/m³ Air	1.1977	3.17	102	75-125			
Cobalt	0.959	0.0378	ng/m³ Air	0.23954	0.720	99.7	75-125			
Copper	40.4	2.28	ng/m³ Air	11.977	28.3	101	75-125			
Lead	24.8	0.185	ng/m³ Air	23.954	0.969	99.6	75-125			
Manganese	26.9	1.64	ng/m³ Air	2.3954	24.2	111	75-125			
Molybdenum	2.44	0.311	ng/m³ Air	1.1977	1.32	93.9	75-125			
Nickel	4.30	0.565	ng/m³ Air	2.3954	1.93	99.1	75-125			
Selenium	1.35	0.00776	ng/m³ Air	1.1977	0.206	95.8	75-125			
Thallium	0.0611	5.10E-4	ng/m³ Air	5.9885E-2	0.00188	98.9	75-125			
Vanadium	3.07	0.0458	ng/m³ Air	1.1977	1.90	97.9	75-125			
Zinc	ND	66.5	ng/m³ Air	23.954	ND		75-125			U
Post Spike (B4L0602-PS2)				**Source: 4120531-05**		Prepared & Analyzed: 12/06/24				
Antimony	0.335	0.0328	ng/m³ Air	0.23522	0.104	98.0	75-125			SL
Arsenic	1.33	0.00797	ng/m³ Air	1.1761	0.212	95.1	75-125			
Barium	6.88	0.910	ng/m³ Air	2.3522	4.57	98.2	75-125			QB-01
Beryllium	0.268	0.00272	ng/m³ Air	0.23522	0.0125	109	75-125			
Cadmium	0.130	0.0630	ng/m³ Air	0.11761	ND	110	75-125			
Chromium	3.83	1.88	ng/m³ Air	1.1761	2.71	95.1	75-125			

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FILE #: 4205.00.003.001
REPORTED: 12/12/24 08:42
SUBMITTED: 12/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Post Spike (B4L0602-PS2) Continued			**Source: 4120531-05**		Prepared & Analyzed: 12/06/24					
Cobalt	0.702	0.0371	ng/m³ Air	0.23522	0.474	96.9	75-125			
Copper	62.5	2.24	ng/m³ Air	11.761	50.2	104	75-125			
Lead	24.1	0.182	ng/m³ Air	23.522	0.671	99.8	75-125			
Manganese	15.2	1.61	ng/m³ Air	2.3522	12.8	101	75-125			
Molybdenum	3.65	0.305	ng/m³ Air	1.1761	2.57	92.1	75-125			
Nickel	4.02	0.554	ng/m³ Air	2.3522	1.68	99.2	75-125			
Selenium	1.30	0.00762	ng/m³ Air	1.1761	0.157	97.5	75-125			
Thallium	0.0594	5.01E-4	ng/m³ Air	5.8805E-2	0.00144	98.5	75-125			
Vanadium	2.65	0.0450	ng/m³ Air	1.1761	1.53	94.9	75-125			
Zinc	ND	65.3	ng/m³ Air	23.522	ND		75-125			U
Dilution Check (B4L0602-SRL1)			**Source: 4120531-13**		Prepared & Analyzed: 12/06/24					
Antimony	ND	0.167	ng/m³ Air		ND				10	SL, U
Arsenic	0.315	0.0406	ng/m³ Air		0.311			1.39	10	
Barium	5.46	4.63	ng/m³ Air		5.68			4.06	10	QB-01
Beryllium	0.0276	0.0139	ng/m³ Air		0.0283			2.68	10	
Cadmium	ND	0.321	ng/m³ Air		ND				10	U
Chromium	ND	9.57	ng/m³ Air		ND				10	U
Cobalt	0.718	0.189	ng/m³ Air		0.720			0.217	10	
Copper	28.1	11.4	ng/m³ Air		28.3			0.657	10	
Lead	ND	0.927	ng/m³ Air		0.969				10	U
Manganese	24.0	8.18	ng/m³ Air		24.2			0.741	10	
Molybdenum	ND	1.55	ng/m³ Air		ND				10	U
Nickel	ND	2.82	ng/m³ Air		ND				10	U
Selenium	0.202	0.0388	ng/m³ Air		0.206			1.88	10	
Thallium	0.00375	0.00255	ng/m³ Air		ND			66.2	10	
Vanadium	1.80	0.229	ng/m³ Air		1.90			5.01	10	
Zinc	ND	333	ng/m³ Air		ND				10	U
Dilution Check (B4L0602-SRL2)			**Source: 4120531-05**		Prepared & Analyzed: 12/06/24					
Antimony	ND	0.164	ng/m³ Air		ND				10	SL, U
Arsenic	0.217	0.0398	ng/m³ Air		0.212			2.25	10	
Barium	4.58	4.55	ng/m³ Air		4.57			0.0671	10	QB-01
Beryllium	ND	0.0136	ng/m³ Air		ND				10	U
Cadmium	ND	0.315	ng/m³ Air		ND				10	U
Chromium	ND	9.40	ng/m³ Air		ND				10	U
Cobalt	0.486	0.185	ng/m³ Air		0.474			2.33	10	
Copper	52.6	11.2	ng/m³ Air		50.2			4.62	10	
Lead	ND	0.910	ng/m³ Air		ND				10	U
Manganese	13.2	8.04	ng/m³ Air		12.8			2.87	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L0602 - ICP-MS Extraction										
Dilution Check (B4L0602-SRL2) Continue Source: 4120531-05 Prepared & Analyzed: 12/06/24										
Molybdenum	2.60	1.53	ng/m³ Air		2.57			1.40	10	
Nickel	ND	2.77	ng/m³ Air		ND				10	U
Selenium	0.165	0.0381	ng/m³ Air		0.157			5.12	10	
Thallium	0.00325	0.00250	ng/m³ Air		ND			77.4	10	
Vanadium	1.51	0.225	ng/m³ Air		1.53			1.15	10	
Zinc	ND	327	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
E	The concentration for this analyte is an estimated value above the calibration range of the instrument.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/19/2024 and Shanna Vasser 12/19/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 11/21/24 – 11/27/24
Report No: 4120531

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic and barium in MFL-FB01-112224-HM, for antimony, arsenic, and barium in MFL-FB01-112424-HM, and for arsenic in MFL-FB01-112624-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

November 28 through December 4, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from November 28 through December 4, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from November 28 through December 4 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 16 samples for asbestos fibers were collected during this reporting period. With the approval of the HDOH, Tetra Tech field teams were not dispatched on November 28 or 29 in observance of the Thanksgiving Day holiday. The field teams did not deploy air samples at any of the four air sampling stations on November 27, 28, or 29. Subsequently, samples were not collected on November 28, 29 or 30

because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. All analytical results for asbestos samples collected during this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc). Results were reported below the laboratory's analytical sensitivity (see **Table 2**). On December 4, the laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4.

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in that sample was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected in samples collected during this reporting period at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

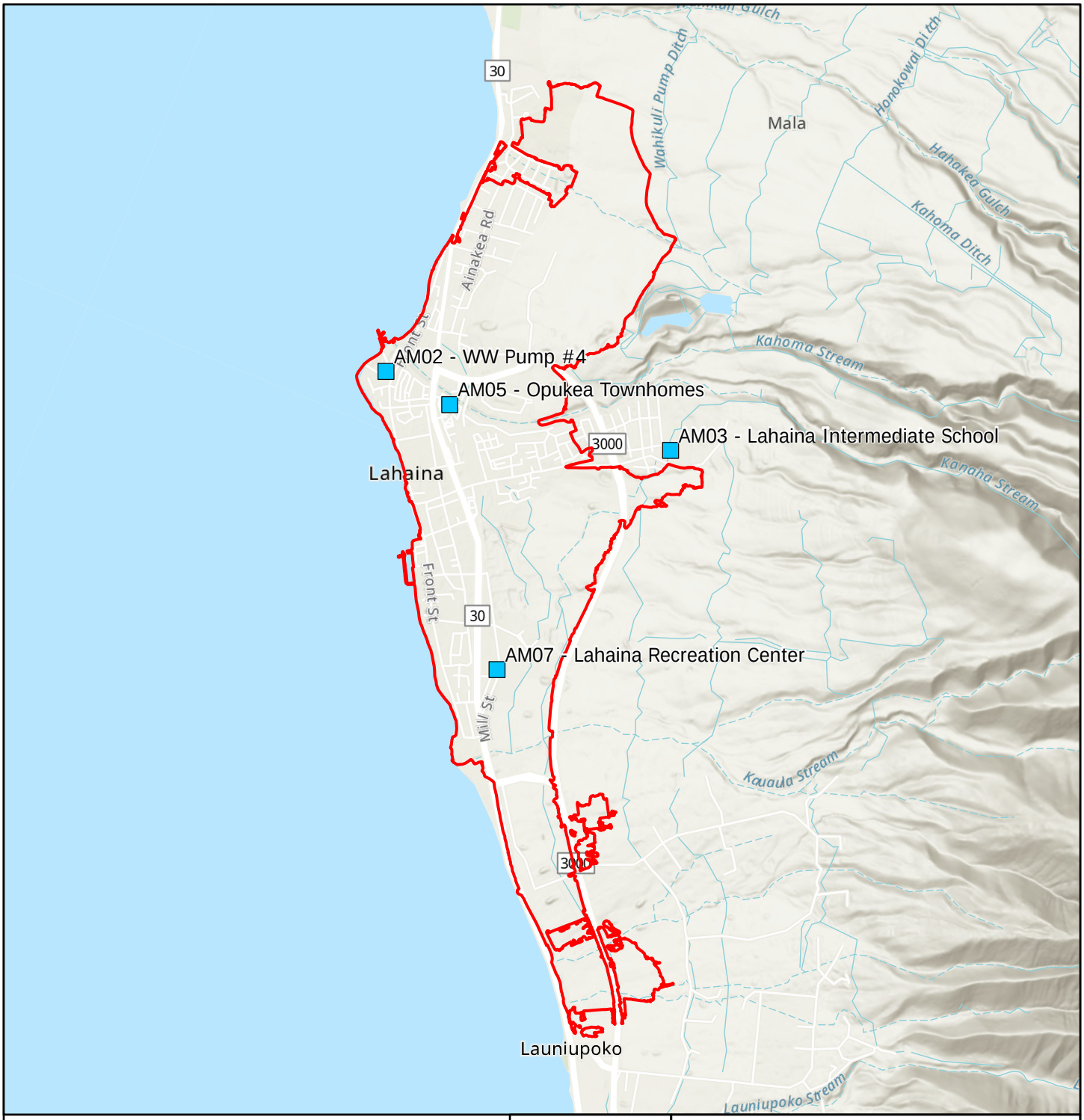
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter

- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
November 28 through December 4, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
11/28/2024	Opukea Townhomes (AM-05)	6.2
	WW Pump Station #4 (AM-02)	5.1
	Lahaina Intermediate School (AM-03)	4.4
	Lahaina Recreation Center (AM-07)	3.8
11/29/2024	Opukea Townhomes (AM-05)	6.0
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Recreation Center (AM-07)	5.7
11/30/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	5.5
	Lahaina Intermediate School (AM-03)	6.1
	Lahaina Recreation Center (AM-07)	9.3
12/1/2024	Opukea Townhomes (AM-05)	6.7
	WW Pump Station #4 (AM-02)	5.6
	Lahaina Intermediate School (AM-03)	4.9
	Lahaina Recreation Center (AM-07)	9.9
12/2/2024	Opukea Townhomes (AM-05)	6.5
	WW Pump Station #4 (AM-02)	4.5
	Lahaina Intermediate School (AM-03)	4.7
	Lahaina Recreation Center (AM-07)	10
12/3/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	5.6
	Lahaina Recreation Center (AM-07)	10
12/4/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	5.0
	Lahaina Recreation Center (AM-07)	12

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
November 28 through December 4, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
11/28/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Recreation Center (AM-07)																	
11/29/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Recreation Center (AM-07)																	
11/30/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Recreation Center (AM-07)																	
12/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000616	0.000198	0.00341	0.00000760	ND	0.00230	0.000262	0.0425	0.000514	0.00788	0.00277	0.000957	0.000151	0.000000853	0.000981	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000204	0.000198	0.00558	0.0000113	ND	0.00279	0.000355	0.0361	0.000631	0.0109	0.00192	0.00117	0.000169	0.0000000913	0.00133	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.0000849	0.00180	0.00000843	ND	0.00191	0.000176	0.0481	0.000325	0.00464	0.00266	0.000742	0.000143	0.0000000593	0.000676	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000724	0.00121	0.0193	0.000129	ND	0.0120	0.00376	0.0212	0.00518	0.117	0.000904	0.00707	0.000633	0.00000463	0.00897	ND
12/2/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000541	0.000125	0.00327	0.00000641	ND	0.00204	0.000211	0.0503	0.000472	0.00610	0.00345	0.000776	0.000140	0.0000000585	0.000744	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000827	0.000174	0.00390	0.00000720	ND	0.00177	0.000213	0.0462	0.000613	0.00671	0.00224	0.000710	0.000148	0.0000000577	0.000790	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000269	0.00529	0.0000281	ND	0.00737	0.000611	0.0453	ND	0.0127	0.00328	0.00278	0.000205	ND	0.00138	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000600	0.000636	0.0184	0.000113	ND	0.0101	0.00308	0.0194	0.00353	0.0935	0.00103	0.00585	0.000555	0.00000405	0.00704	ND
12/3/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000990	0.000343	0.00609	0.0000166	ND	0.00364	0.000671	0.0451	0.00105	0.0171	0.00284	0.00194	0.000178	0.000000909	0.00200	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000203	0.000364	0.0114	0.0000252	ND	0.00427	0.000920	0.0513	0.00105	0.0266	0.00261	0.00237	0.000217	0.00000129	0.00286	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000482	0.000165	0.00376	0.0000379	ND	0.00334	0.000640	0.0384	0.000296	0.0137	0.00249	0.00165	0.000181	0.000000751	0.00160	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000950	0.000839	0.0144	0.0000959	ND	0.0100	0.00297	0.0216	0.00292	0.0852	0.00121	0.00580	0.000511	0.00000365	0.00699	ND
12/4/2024	Opukea Townhomes (AM-05)	<0.0024	0.000119	0.000274	0.00627	0.0000178	ND	0.00366	0.000710	0.0333	0.000583	0.0188	0.00223	0.00215	0.000177	0.000000984	0.00299	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000211	0.000361	0.00992	0.0000289	ND	0.00512	0.00116	0.0627	0.000890	0.0289	0.00327	0.00350	0.000221	0.00000133	0.00432	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000551	0.000194	0.00352	0.0000242	ND	0.00340	0.000630	0.0469	0.000309	0.0148	0.00276	0.00187	0.000166	0.0000000901	0.00207	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000116	0.00137	0.0128	0.0000650	ND	0.00832	0.00217	0.0203	0.00118	0.0767	0.00129	0.00456	0.000415	0.00000359	0.00601	ND

95% Upper Confidence Limit[2]	NA	0.000140	0.000690	0.0124	0.0000790	NA	0.00738	0.00239	0.0478	0.00232	0.0712	0.00292	0.00448	0.000340	0.00000270	0.00567	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Thanksgiving and following day holiday observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
November 28, through December 4, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/28/2024	AM-02	WW Pump Station #4	1.0	SSE	77	65	760.6
11/28/2024	AM-03	Lahaina Intermediate School	1.1	ESE	76	63	751.2
11/28/2024	AM-05	Opukea Townhomes	1.3	ESE	77	60	760.1
11/28/2024	AM-07	Lahaina Recreational Center	1.5	SE	75	66	759.8
11/29/2024	AM-02	WW Pump Station #4	1.2	SE	78	64	760.4
11/29/2024	AM-03	Lahaina Intermediate School	1.1	ESE	76	61	751.1
11/29/2024	AM-05	Opukea Townhomes	1.2	ESE	77	59	759.9
11/29/2024	AM-07	Lahaina Recreational Center	1.7	SE	76	64	759.6
11/30/2024	AM-02	WW Pump Station #4	1.0	SE	77	64	760.9
11/30/2024	AM-03	Lahaina Intermediate School	1.0	ESE	75	62	751.6
11/30/2024	AM-05	Opukea Townhomes	1.0	SE	77	59	760.5
11/30/2024	AM-07	Lahaina Recreational Center	1.5	SE	75	64	760.2
12/1/2024	AM-02	WW Pump Station #4	0.9	SSE	77	65	761.3
12/1/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	63	751.9
12/1/2024	AM-05	Opukea Townhomes	1.1	ESE	77	60	760.8
12/1/2024	AM-07	Lahaina Recreational Center	1.4	SE	75	65	760.5
12/2/2024	AM-02	WW Pump Station #4	0.9	SE	78	64	762.1
12/2/2024	AM-03	Lahaina Intermediate School	1.4	SE	77	59	752.7
12/2/2024	AM-05	Opukea Townhomes	1.2	SSE	77	59	761.7
12/2/2024	AM-07	Lahaina Recreational Center	1.4	ESE	76	61	761.4
12/3/2024	AM-02	WW Pump Station #4	0.8	SSE	77	72	762.4
12/3/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	67	753.0
12/3/2024	AM-05	Opukea Townhomes	1.0	SSE	77	66	762.0
12/3/2024	AM-07	Lahaina Recreational Center	1.3	SE	76	70	761.6
12/4/2024	AM-02	WW Pump Station #4	0.8	SSE	78	66	762.2
12/4/2024	AM-03	Lahaina Intermediate School	1.3	SE	78	58	752.8
12/4/2024	AM-05	Opukea Townhomes	1.2	ENE	79	58	761.7
12/4/2024	AM-07	Lahaina Recreational Center	1.5	S	76	65	761.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424722
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-113024-AB**	**Sample Description:**	**DL698503**
EMSL Sample Number:	042424722-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0001 **Customer Sample:** MFL-FB01-113024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B5	None Detected									
G1	D7	None Detected									
G1	F7	None Detected									
G1	H9	None Detected									
G1	J7	None Detected									
G2	A4	None Detected									
G2	C7	None Detected									
G2	E1	None Detected									
G2	G4	None Detected									
G2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424722
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120124-AB**	**Sample Description:**	**DL698467**
EMSL Sample Number:	042424722-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7129.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0002 **Customer Sample:** MFL-AM05-120124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A4	None Detected									
G5	D7	None Detected									
G5	H10	None Detected									
G6	B9	None Detected									
G6	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424722
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120124-AB**	**Sample Description:**	**DL698169**
EMSL Sample Number:	042424722-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7389.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0003 **Customer Sample:** MFL-AM02-120124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H3	None Detected									
H1	E4	None Detected									
H1	B3	None Detected									
H2	C7	None Detected									
H2	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120124-AB**	**Sample Description:**	**DL698005**
EMSL Sample Number:	042424722-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7361.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0004 **Customer Sample:** MFL-AM03-120124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B4	None Detected									
H5	D8	None Detected									
H5	H3	None Detected									
H8	A6	None Detected									
H8	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120124-AB**	**Sample Description:**	**DL698121**
EMSL Sample Number:	042424722-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7263.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0005 **Customer Sample:** MFL-AM07-120124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	C7	None Detected									
I1	E4	None Detected									
I1	H4	None Detected									
I2	I8	None Detected									
I2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424722
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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-120124-AB**	**Sample Description:**	**DL698006**
EMSL Sample Number:	042424722-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0006 **Customer Sample:** MFL-FB01-120124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J6	None Detected									
I5	H5	None Detected									
I5	F8	None Detected									
I5	D5	None Detected									
I5	B9	None Detected									
I6	J9	None Detected									
I6	H3	None Detected									
I6	F3	None Detected									
I6	D7	None Detected									
I6	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424722
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/04/2024 09:30 AM
Analysis Date:	12/10/2024
Report Date:	12/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042424722-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424722
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424722-0007 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J8	None Detected									
F1	H5	None Detected									
F1	F4	None Detected									
F1	D6	None Detected									
F1	B1	None Detected									
F2	J7	None Detected									
F2	H3	None Detected									
F2	F2	None Detected									
F2	D5	None Detected									
F2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042424722

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424722

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	US	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Nicholas Keefe
Sampled By Signature: Nick Keefe
No. of Samples in Shipment: 6

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON, NJ 24 DEC -4 AM 11:05

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples): ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-FB01-113024-AB	DL698503	0	11/30/24 1200
MFL-AM05-120124-AB	DL698467	7129.069	12/01/24 1058
MFL-AM02-120124-AB	DL698169	7389.398	12/01/24 1111
MFL-AM03-120124-AB	DL698005	7361.354	12/01/24 1252
MFL-AM07-120124-AB	DL698121	7263.616	12/01/24 1311
MFL-FB01-120124-AB	DL698006	0	12/01/24 1200

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Nick Keefe	Date/Time: 12/02/24 1100	Received by: TX	Date/Time 12/4/24 932
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/10/2024 and Shanna Vasser 12/11/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/30/2024 – 12/01/2024
Report No: 42424722

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/10/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120224-AB**		**Sample Description:**	**Dl698531**
EMSL Sample Number:	042424953-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7150.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0001 **Customer Sample:** MFL-AM05-120224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B4	None Detected									
A5	D9	None Detected									
A5	H8	None Detected									
A6	B4	None Detected									
A6	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/10/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120224-AB**		**Sample Description:**	**DL698474**
EMSL Sample Number:	042424953-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6993.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0002 **Customer Sample:** MFL-AM02-120224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J5	None Detected									
B1	G7	None Detected									
B1	B5	None Detected									
B2	I4	None Detected									
B2	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/10/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120224-AB**		**Sample Description:**	**DL698519**
EMSL Sample Number:	042424953-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7239.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0003 **Customer Sample:** MFL-AM03-120224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	C8	None Detected									
B5	G7	None Detected									
B5	J3	None Detected									
B6	C5	None Detected									
B6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120224-AB**		**Sample Description:**	**DL698184**
EMSL Sample Number:	042424953-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7301.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0004 **Customer Sample:** MFL-AM07-120224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	E8	None Detected									
C1	G10	None Detected									
C1	I7	None Detected									
C2	C7	None Detected									
C2	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-120224-AB**	**Sample Description:**	**DL698013**
EMSL Sample Number:	042424953-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0005 **Customer Sample:** MFL-FB01-120224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A6	None Detected									
C5	C3	None Detected									
C5	E2	None Detected									
C5	G4	None Detected									
C5	I6	None Detected									
C7	J5	None Detected									
C7	H1	None Detected									
C7	F8	None Detected									
C7	D9	None Detected									
C7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120324-AB**	**Sample Description:**	**DL698255**
EMSL Sample Number:	042424953-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7234.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0006 **Customer Sample:** MFL-AM05-120324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A7	None Detected									
D1	D9	None Detected									
D1	H6	None Detected									
D2	I4	None Detected									
D2	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120324-AB**	**Sample Description:**	**DL698127**
EMSL Sample Number:	042424953-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7207.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0007 **Customer Sample:** MFL-AM02-120324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J1	None Detected									
D5	G5	None Detected									
D5	E3	None Detected									
D6	H1	None Detected									
D6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
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Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120324-AB**	**Sample Description:**	**DL698008**
EMSL Sample Number:	042424953-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7340.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0008 **Customer Sample:** MFL-AM03-120324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I6	None Detected									
E1	G8	None Detected									
E1	D9	None Detected									
E2	C2	None Detected									
E2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120324-AB**		**Sample Description:**	**DL698498**
EMSL Sample Number:	042424953-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7101.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0009 **Customer Sample:** MFL-AM07-120324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B6	None Detected									
E5	E7	None Detected									
E5	G3	None Detected									
E6	H1	None Detected									
E6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-120324-AB** **Sample Description: DL697944**

EMSL Sample Number:	042424953-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0010 **Customer Sample:** MFL-FB01-120324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J2	None Detected									
F1	H4	None Detected									
F1	F2	None Detected									
F1	D5	None Detected									
F1	B3	None Detected									
F4	J5	None Detected									
F4	H10	None Detected									
F4	F9	None Detected									
F4	D9	None Detected									
F4	B10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120424-AB**		**Sample Description:**	**DL698064**
EMSL Sample Number:	042424953-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0011 **Customer Sample:** MFL-AM05-120424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J7	None Detected									
F5	G10	None Detected									
F5	C9	None Detected									
F6	C2	None Detected									
F6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120424-AB**		**Sample Description:**	**DL698476**
EMSL Sample Number:	042424953-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6756.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0012 **Customer Sample:** MFL-AM02-120424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	H10	None Detected									
G1	E7	None Detected									
G1	C8	None Detected									
G2	J8	None Detected									
G2	E10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120424-AB**	**Sample Description:**	**DL697959**
EMSL Sample Number:	042424953-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7350.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0013 **Customer Sample:** MFL-AM03-120424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B3	None Detected									
G5	E4	None Detected									
G5	H1	None Detected									
G6	A4	None Detected									
G6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120424-AB**		**Sample Description:**	**DL698446**
EMSL Sample Number:	042424953-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0014 **Customer Sample:** MFL-AM07-120424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B3	None Detected									
H1	F7	None Detected									
H1	I9	None Detected									
H2	I2	None Detected									
H2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/12/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-120424-AB**	**Sample Description:**	**DL698165**
EMSL Sample Number:	042424953-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042424953**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0015 **Customer Sample:** MFL-FB01-120424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	J2	None Detected									
H6	H5	None Detected									
H6	F4	None Detected									
H6	D5	None Detected									
H6	B4	None Detected									
H7	A10	None Detected									
H7	C9	None Detected									
H7	E7	None Detected									
H7	G8	None Detected									
H7	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042424953
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/09/2024 09:25 AM
Analysis Date:	12/10/2024
Report Date:	12/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042424953-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042424953
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042424953-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J6	None Detected									
A2	I10	None Detected									
A2	G6	None Detected									
A2	E8	None Detected									
A2	C9	None Detected									
A3	A1	None Detected									
A3	C3	None Detected									
A3	E2	None Detected									
A3	G9	None Detected									
A3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042424953

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424953

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinAslab@EMSL.com

RECEIVED EMSL CINNAMINSON NJ 2024 DEC -9 AM 8:34

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	US	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	Chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Nicholas Keefe
Sampled By Signature: Nick Keefe
No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
~~MFL-AM05-120224-AB~~	~~DL698474~~		
MFL-AM05-120224-AB	DL698531	7150.713	12/02/24 1054
MFL-AM02-120224-AB	DL698474	6993.612	12/02/24 1114
MFL-AM03-120224-AB	DL698519	7239.611	12/02/24 1254
MFL-AM07-120224-AB	DL698184	7301.840	12/02/24 1329
MFL-FB01-120224-AB	DL698013	0	12/02/24 1200
MFL-AM05-120324-AB	DL698255	7234.860	12/03/24 1055
MFL-AM02-120324-AB	DL698127	7207.486	12/03/24 1107

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment:	Fedex		Sample Condition Upon Receipt:		
Relinquished by:	Nick Keefe	Date/Time: 12/05/24 1100	Received by:	Fedex	Date/Time 12/9/24 9:25A
Relinquished by:		Date/Time:	Received by:		Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042424953

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042424953

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03 - 120324 - AB	DL698008	7340.216	12/03/24 1251
MFL-AM01 - 120324 - AB	DL698498	7101.721	12/03/24 1308
MFL-FB01 - 120324 - AB	DL697944	0	12/03/24 1200
MFL-AM05 - 120424 - AB	DL698064	7190.173	12/04/24 1055
MFL-AM02 - 120424 - AB	DL698476	6756.774	12/04/24 1108
MFL-AM03 - 120424 - AB	DL697959	7350.538	12/04/24 1257
MFL-AM07 - 120424 - AB	DL698446	7270.229	12/04/24 1315
MFL-FB01 - 120424 - AB	DL698165	0	12/04/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 DEC -9 AM 9:34

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Matt Lake	Date/Time: 12/05/24 1100	Received by: Fedex	Date/Time: 12/9/24 9:25A
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/19/2024 and Shanna Vasser 12/19/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/02/2024 – 12/04/2024
Report No: 42424953

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

December 17, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/09/24 10:59.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-FB01-113024-HM	4120938-01	Air	11/30/24 00:00	12/09/24 10:59
MFL-AM05-120124-HM	4120938-02	Air	12/01/24 23:59	12/09/24 10:59
MFL-AM02-120124-HM	4120938-03	Air	12/01/24 23:59	12/09/24 10:59
MFL-AM03-120124-HM	4120938-04	Air	12/01/24 23:59	12/09/24 10:59
MFL-AM07-120124-HM	4120938-05	Air	12/01/24 23:59	12/09/24 10:59
MFL-AM05-120224-HM	4120938-06	Air	12/02/24 23:59	12/09/24 10:59
MFL-AM02-120224-HM	4120938-07	Air	12/02/24 23:59	12/09/24 10:59
MFL-AM03-120224-HM	4120938-08	Air	12/02/24 23:59	12/09/24 10:59
MFL-AM07-120224-HM	4120938-09	Air	12/02/24 23:59	12/09/24 10:59
MFL-FB01-120224-HM	4120938-10	Air	12/02/24 00:00	12/09/24 10:59
MFL-AM05-120324-HM	4120938-11	Air	12/03/24 23:59	12/09/24 10:59
MFL-AM02-120324-HM	4120938-12	Air	12/03/24 23:59	12/09/24 10:59
MFL-AM03-120324-HM	4120938-13	Air	12/03/24 23:59	12/09/24 10:59
MFL-AM07-120324-HM	4120938-14	Air	12/03/24 23:59	12/09/24 10:59
MFL-AM05-120424-HM	4120938-15	Air	12/04/24 23:59	12/09/24 10:59
MFL-AM02-120424-HM	4120938-16	Air	12/04/24 23:59	12/09/24 10:59
MFL-AM03-120424-HM	4120938-17	Air	12/04/24 23:59	12/09/24 10:59
MFL-AM07-120424-HM	4120938-18	Air	12/04/24 23:59	12/09/24 10:59
MFL-FB01-120424-HM	4120938-19	Air	12/04/24 00:00	12/09/24 10:59

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-113024-HM
Matrix: Air
Lab ID: 4120938-01
Sample Volume: 1884.542 m³
Filter ID:
Sampled: 11/30/24 00:00
Received: 12/09/24 10:59
Analysis Date: 12/10/24 20:36

Comments: Q9552328 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00969	SL, U	0.0333
Arsenic	7440-38-2	0.00513	U	0.00809
Barium	7440-39-3	0.781	QB-01, U	0.924
Beryllium	7440-41-7	0.00112	U	0.00276
Cadmium	7440-43-9	0.00163	U	0.0640
Chromium	7440-47-3	1.34	U	1.91
Cobalt	7440-48-4	0.0240	U	0.0376
Copper	7440-50-8	0.422	U	2.27
Lead	7439-92-1	0.0386	U	0.185
Manganese	7439-96-5	0.341	U	1.63
Molybdenum	7439-98-7	0.220	U	0.310
Nickel	7440-02-0	0.300	U	0.563
Selenium	7782-49-2	7.42E-4	U	0.00774
Thallium	7440-28-0	2.22E-4	U	5.09E-4
Vanadium	7440-62-2	0.0377	U	0.0457
Zinc	7440-66-6	4.27	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120124-HM
Matrix: Air
Lab ID: 4120938-02
Sample Volume: 1884.542 m³
Filter ID:
Sampled: 12/01/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 18:07

Comments: Q9552332 - MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0616**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.198**		**0.00809**
Barium	**7440-39-3**	**3.41**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.00760**		**0.00276**
Cadmium	7440-43-9	0.0160	U	0.0640
Chromium	**7440-47-3**	**2.30**		**1.91**
Cobalt	**7440-48-4**	**0.262**		**0.0376**
Copper	**7440-50-8**	**42.5**		**2.27**
Lead	**7439-92-1**	**0.514**		**0.185**
Manganese	**7439-96-5**	**7.88**		**1.63**
Molybdenum	**7439-98-7**	**2.77**		**0.310**
Nickel	**7440-02-0**	**0.957**		**0.563**
Selenium	**7782-49-2**	**0.151**		**0.00774**
Thallium	**7440-28-0**	**8.53E-4**		**5.09E-4**
Vanadium	**7440-62-2**	**0.981**		**0.0457**
Zinc	7440-66-6	11.5	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120124-HM
Matrix: Air
Lab ID: 4120938-03
Sample Volume: 2097.722 m³
Filter ID:
Sampled: 12/01/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 20:50

Comments: Q9552330 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.204**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.198**		**0.00727**
Barium	**7440-39-3**	**5.58**	QB-01	**0.830**
Beryllium	**7440-41-7**	**0.0113**		**0.00248**
Cadmium	7440-43-9	0.0143	U	0.0575
Chromium	**7440-47-3**	**2.79**		**1.71**
Cobalt	**7440-48-4**	**0.355**		**0.0338**
Copper	**7440-50-8**	**36.1**		**2.04**
Lead	**7439-92-1**	**0.631**		**0.166**
Manganese	**7439-96-5**	**10.9**		**1.47**
Molybdenum	**7439-98-7**	**1.92**		**0.278**
Nickel	**7440-02-0**	**1.17**		**0.506**
Selenium	**7782-49-2**	**0.169**		**0.00695**
Thallium	**7440-28-0**	**9.13E-4**		**4.57E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0410**
Zinc	7440-66-6	15.8	U	59.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120124-HM
Matrix: Air
Lab ID: 4120938-04
Sample Volume: 1943.407 m³
Filter ID:
Sampled: 12/01/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 21:04

Comments: Q9552329 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0210	SL, U	0.0323
Arsenic	**7440-38-2**	**0.0849**		**0.00784**
Barium	**7440-39-3**	**1.80**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.00843**		**0.00268**
Cadmium	7440-43-9	0.00602	U	0.0620
Chromium	**7440-47-3**	**1.91**		**1.85**
Cobalt	**7440-48-4**	**0.176**		**0.0365**
Copper	**7440-50-8**	**48.1**		**2.20**
Lead	**7439-92-1**	**0.325**		**0.179**
Manganese	**7439-96-5**	**4.64**		**1.58**
Molybdenum	**7439-98-7**	**2.66**		**0.301**
Nickel	**7440-02-0**	**0.742**		**0.546**
Selenium	**7782-49-2**	**0.143**		**0.00750**
Thallium	**7440-28-0**	**5.93E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.676**		**0.0443**
Zinc	7440-66-6	7.63	U	64.3

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120124-HM
Matrix: Air
Lab ID: 4120938-05
Sample Volume: 1884.989 m³
Filter ID:
Sampled: 12/01/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 21:18

Comments: Q9552327 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0724**	SL	**0.0333**
Arsenic	**7440-38-2**	**1.21**	LJ, QX	**0.00809**
Barium	**7440-39-3**	**19.3**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.129**		**0.00276**
Cadmium	7440-43-9	0.0412	LJ, QX, U	0.0640
Chromium	**7440-47-3**	**12.0**		**1.91**
Cobalt	**7440-48-4**	**3.76**		**0.0376**
Copper	**7440-50-8**	**21.2**		**2.27**
Lead	**7439-92-1**	**5.18**		**0.185**
Manganese	**7439-96-5**	**117**		**1.63**
Molybdenum	**7439-98-7**	**0.904**	LJ, QX	**0.310**
Nickel	**7440-02-0**	**7.07**		**0.563**
Selenium	**7782-49-2**	**0.633**	LJ, QX	**0.00773**
Thallium	**7440-28-0**	**0.00463**		**5.08E-4**
Vanadium	**7440-62-2**	**8.97**		**0.0457**
Zinc	7440-66-6	24.4	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120224-HM
Matrix: Air
Lab ID: 4120938-06
Sample Volume: 1901.867 m³
Filter ID:
Sampled: 12/02/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 21:36

Comments: Q9552325 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0541**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.125**		**0.00802**
Barium	**7440-39-3**	**3.27**	QB-01	**0.915**
Beryllium	**7440-41-7**	**0.00641**		**0.00274**
Cadmium	7440-43-9	0.0152	U	0.0634
Chromium	**7440-47-3**	**2.04**		**1.89**
Cobalt	**7440-48-4**	**0.211**		**0.0373**
Copper	**7440-50-8**	**50.3**		**2.25**
Lead	**7439-92-1**	**0.472**		**0.183**
Manganese	**7439-96-5**	**6.10**		**1.62**
Molybdenum	**7439-98-7**	**3.45**		**0.307**
Nickel	**7440-02-0**	**0.776**		**0.558**
Selenium	**7782-49-2**	**0.140**		**0.00767**
Thallium	**7440-28-0**	**5.85E-4**		**5.04E-4**
Vanadium	**7440-62-2**	**0.744**		**0.0453**
Zinc	7440-66-6	8.83	U	65.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120224-HM
Matrix: Air
Lab ID: 4120938-07
Sample Volume: 2093.872 m³
Filter ID:
Sampled: 12/02/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 21:50

Comments: Q9552323 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0827**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.174**		**0.00728**
Barium	**7440-39-3**	**3.90**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.00720**		**0.00249**
Cadmium	7440-43-9	0.0145	U	0.0576
Chromium	**7440-47-3**	**1.77**		**1.72**
Cobalt	**7440-48-4**	**0.213**		**0.0339**
Copper	**7440-50-8**	**46.2**		**2.04**
Lead	**7439-92-1**	**0.613**		**0.166**
Manganese	**7439-96-5**	**6.71**		**1.47**
Molybdenum	**7439-98-7**	**2.24**		**0.279**
Nickel	**7440-02-0**	**0.710**		**0.507**
Selenium	**7782-49-2**	**0.148**		**0.00696**
Thallium	**7440-28-0**	**5.77E-4**		**4.58E-4**
Vanadium	**7440-62-2**	**0.790**		**0.0411**
Zinc	7440-66-6	9.99	U	59.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120224-HM
Matrix: Air
Lab ID: 4120938-08
Sample Volume: 710.653 m³
Filter ID:
Sampled: 12/02/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 22:04

Comments: Q9552322 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0586	SL, U	0.0884
Arsenic	**7440-38-2**	**0.269**		**0.0215**
Barium	**7440-39-3**	**5.29**	QB-01	**2.45**
Beryllium	**7440-41-7**	**0.0281**		**0.00733**
Cadmium	7440-43-9	0.0129	U	0.170
Chromium	**7440-47-3**	**7.37**		**5.06**
Cobalt	**7440-48-4**	**0.611**		**0.0998**
Copper	**7440-50-8**	**45.3**		**6.02**
Lead	7439-92-1	0.433	U	0.490
Manganese	**7439-96-5**	**12.7**		**4.33**
Molybdenum	**7439-98-7**	**3.28**		**0.822**
Nickel	**7440-02-0**	**2.78**		**1.49**
Selenium	**7782-49-2**	**0.205**		**0.0205**
Thallium	7440-28-0	9.07E-4	U	0.00135
Vanadium	**7440-62-2**	**1.38**		**0.121**
Zinc	7440-66-6	16.3	U	176

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120224-HM
Matrix: Air
Lab ID: 4120938-09
Sample Volume: 1779.727 m³
Filter ID:
Sampled: 12/02/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 22:18

Comments: Q9552321 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0600**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.636**		**0.00857**
Barium	**7440-39-3**	**18.4**	QB-01	**0.978**
Beryllium	**7440-41-7**	**0.113**		**0.00293**
Cadmium	7440-43-9	0.0344	U	0.0677
Chromium	**7440-47-3**	**10.1**		**2.02**
Cobalt	**7440-48-4**	**3.08**		**0.0399**
Copper	**7440-50-8**	**19.4**		**2.40**
Lead	**7439-92-1**	**3.53**		**0.196**
Manganese	**7439-96-5**	**93.5**		**1.73**
Molybdenum	**7439-98-7**	**1.03**		**0.328**
Nickel	**7440-02-0**	**5.85**		**0.596**
Selenium	**7782-49-2**	**0.555**		**0.00819**
Thallium	**7440-28-0**	**0.00405**		**5.38E-4**
Vanadium	**7440-62-2**	**7.04**		**0.0484**
Zinc	7440-66-6	20.1	U	70.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-120224-HM
Matrix: Air
Lab ID: 4120938-10
Sample Volume: 1901.867 m³
Filter ID:
Sampled: 12/02/24 00:00
Received: 12/09/24 10:59
Analysis Date: 12/10/24 22:33

Comments: Q9552318 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0108	SL, U	0.0330
Arsenic	**7440-38-2**	**0.00805**	FB-01	**0.00802**
Barium	**7440-39-3**	**1.39**	FB-01, QB-01	**0.915**
Beryllium	7440-41-7	0.00121	U	0.00274
Cadmium	7440-43-9	0.00785	U	0.0634
Chromium	7440-47-3	1.50	U	1.89
Cobalt	7440-48-4	0.0270	U	0.0373
Copper	7440-50-8	0.597	U	2.25
Lead	7439-92-1	0.0851	U	0.183
Manganese	7439-96-5	0.405	U	1.62
Molybdenum	7439-98-7	0.201	U	0.307
Nickel	7440-02-0	0.335	U	0.558
Selenium	7782-49-2	0.00526	U	0.00767
Thallium	7440-28-0	9.36E-5	U	5.04E-4
Vanadium	7440-62-2	0.0416	U	0.0453
Zinc	7440-66-6	3.87	U	65.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120324-HM
Matrix: Air
Lab ID: 4120938-11
Sample Volume: 1919.176 m³
Filter ID:
Sampled: 12/03/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 22:47

Comments: Q9552319 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0990**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.343**		**0.00794**
Barium	**7440-39-3**	**6.09**	QB-01	**0.907**
Beryllium	**7440-41-7**	**0.0166**		**0.00271**
Cadmium	7440-43-9	0.0167	U	0.0628
Chromium	**7440-47-3**	**3.64**		**1.87**
Cobalt	**7440-48-4**	**0.671**		**0.0370**
Copper	**7440-50-8**	**45.1**		**2.23**
Lead	**7439-92-1**	**1.05**		**0.181**
Manganese	**7439-96-5**	**17.1**		**1.60**
Molybdenum	**7439-98-7**	**2.84**		**0.304**
Nickel	**7440-02-0**	**1.94**		**0.553**
Selenium	**7782-49-2**	**0.178**		**0.00760**
Thallium	**7440-28-0**	**9.09E-4**		**4.99E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0448**
Zinc	7440-66-6	15.4	U	65.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120324-HM
Matrix: Air
Lab ID: 4120938-12
Sample Volume: 2095.082 m³
Filter ID:
Sampled: 12/03/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/10/24 23:52

Comments: Q9552317 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.203**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.364**		**0.00728**
Barium	**7440-39-3**	**11.4**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.0252**		**0.00249**
Cadmium	7440-43-9	0.0164	U	0.0575
Chromium	**7440-47-3**	**4.27**		**1.72**
Cobalt	**7440-48-4**	**0.920**		**0.0339**
Copper	**7440-50-8**	**51.3**		**2.04**
Lead	**7439-92-1**	**1.05**		**0.166**
Manganese	**7439-96-5**	**26.6**		**1.47**
Molybdenum	**7439-98-7**	**2.61**		**0.279**
Nickel	**7440-02-0**	**2.37**		**0.506**
Selenium	**7782-49-2**	**0.217**		**0.00696**
Thallium	**7440-28-0**	**0.00129**		**4.57E-4**
Vanadium	**7440-62-2**	**2.86**		**0.0411**
Zinc	7440-66-6	21.7	U	59.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120324-HM **Lab ID:** 4120938-13 **Sampled:** 12/03/24 23:59
Matrix: Air **Sample Volume:** 1962.07 m³ **Received:** 12/09/24 10:59
Filter ID: **Analysis Date:** 12/11/24 00:06

Comments: Q9552313 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0482**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.165**		**0.00777**
Barium	**7440-39-3**	**3.76**	QB-01	**0.887**
Beryllium	**7440-41-7**	**0.0379**		**0.00265**
Cadmium	7440-43-9	0.00929	U	0.0614
Chromium	**7440-47-3**	**3.34**		**1.83**
Cobalt	**7440-48-4**	**0.640**		**0.0362**
Copper	**7440-50-8**	**38.4**		**2.18**
Lead	**7439-92-1**	**0.296**		**0.177**
Manganese	**7439-96-5**	**13.7**		**1.57**
Molybdenum	**7439-98-7**	**2.49**		**0.298**
Nickel	**7440-02-0**	**1.65**		**0.541**
Selenium	**7782-49-2**	**0.181**		**0.00743**
Thallium	**7440-28-0**	**7.51E-4**		**4.88E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0439**
Zinc	7440-66-6	8.39	U	63.7

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120324-HM
Matrix: Air
Lab ID: 4120938-14
Sample Volume: 1521.631 m³
Filter ID:
Sampled: 12/03/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/11/24 00:20

Comments: Q9552312 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0950**	SL	**0.0413**
Arsenic	**7440-38-2**	**0.839**		**0.0100**
Barium	**7440-39-3**	**14.4**	QB-01	**1.14**
Beryllium	**7440-41-7**	**0.0959**	R-F	**0.00342**
Cadmium	7440-43-9	0.0468	U	0.0792
Chromium	**7440-47-3**	**10.0**		**2.36**
Cobalt	**7440-48-4**	**2.97**		**0.0466**
Copper	**7440-50-8**	**21.6**		**2.81**
Lead	**7439-92-1**	**2.92**		**0.229**
Manganese	**7439-96-5**	**85.2**		**2.02**
Molybdenum	**7439-98-7**	**1.21**		**0.384**
Nickel	**7440-02-0**	**5.80**		**0.697**
Selenium	**7782-49-2**	**0.511**		**0.00958**
Thallium	**7440-28-0**	**0.00365**		**6.30E-4**
Vanadium	**7440-62-2**	**6.99**		**0.0566**
Zinc	7440-66-6	20.0	U	82.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120424-HM
Matrix: Air
Lab ID: 4120938-15
Sample Volume: 1941.338 m³
Filter ID:
Sampled: 12/04/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/11/24 00:53

Comments: Q9552311 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.274**		**0.00785**
Barium	**7440-39-3**	**6.27**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.0178**		**0.00268**
Cadmium	7440-43-9	0.0199	U	0.0621
Chromium	**7440-47-3**	**3.66**		**1.85**
Cobalt	**7440-48-4**	**0.710**		**0.0365**
Copper	**7440-50-8**	**33.3**		**2.20**
Lead	**7439-92-1**	**0.583**		**0.179**
Manganese	**7439-96-5**	**18.8**		**1.58**
Molybdenum	**7439-98-7**	**2.23**		**0.301**
Nickel	**7440-02-0**	**2.15**		**0.546**
Selenium	**7782-49-2**	**0.177**		**0.00751**
Thallium	**7440-28-0**	**9.84E-4**		**4.94E-4**
Vanadium	**7440-62-2**	**2.99**		**0.0443**
Zinc	7440-66-6	14.1	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120424-HM
Matrix: Air
Lab ID: 4120938-16
Sample Volume: 2123.534 m³
Filter ID:
Sampled: 12/04/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/11/24 01:07

Comments: Q9552308 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.211**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.361**		**0.00718**
Barium	**7440-39-3**	**9.92**	QB-01	**0.820**
Beryllium	**7440-41-7**	**0.0289**		**0.00245**
Cadmium	7440-43-9	0.0140	U	0.0568
Chromium	**7440-47-3**	**5.12**		**1.69**
Cobalt	**7440-48-4**	**1.16**		**0.0334**
Copper	**7440-50-8**	**62.7**		**2.02**
Lead	**7439-92-1**	**0.890**		**0.164**
Manganese	**7439-96-5**	**28.9**		**1.45**
Molybdenum	**7439-98-7**	**3.27**		**0.275**
Nickel	**7440-02-0**	**3.50**		**0.500**
Selenium	**7782-49-2**	**0.221**		**0.00686**
Thallium	**7440-28-0**	**0.00133**		**4.51E-4**
Vanadium	**7440-62-2**	**4.32**		**0.0405**
Zinc	7440-66-6	19.0	U	58.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120424-HM
Matrix: Air
Lab ID: 4120938-17
Sample Volume: 1956.439 m³
Filter ID:
Sampled: 12/04/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/11/24 01:21

Comments: Q9552307 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0551**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.194**		**0.00779**
Barium	**7440-39-3**	**3.52**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.0242**		**0.00266**
Cadmium	7440-43-9	0.00999	U	0.0616
Chromium	**7440-47-3**	**3.40**		**1.84**
Cobalt	**7440-48-4**	**0.630**		**0.0363**
Copper	**7440-50-8**	**46.9**		**2.19**
Lead	**7439-92-1**	**0.309**		**0.178**
Manganese	**7439-96-5**	**14.8**		**1.57**
Molybdenum	**7439-98-7**	**2.76**		**0.299**
Nickel	**7440-02-0**	**1.87**		**0.542**
Selenium	**7782-49-2**	**0.166**		**0.00745**
Thallium	**7440-28-0**	**9.01E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**2.07**		**0.0440**
Zinc	7440-66-6	9.10	U	63.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120424-HM
Matrix: Air
Lab ID: 4120938-18
Sample Volume: 1612.564 m³
Filter ID:
Sampled: 12/04/24 23:59
Received: 12/09/24 10:59
Analysis Date: 12/11/24 01:36

Comments: Q9552306 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0389**
Arsenic	**7440-38-2**	**1.37**		**0.00945**
Barium	**7440-39-3**	**12.8**	QB-01	**1.08**
Beryllium	**7440-41-7**	**0.0650**		**0.00323**
Cadmium	7440-43-9	0.0343	U	0.0748
Chromium	**7440-47-3**	**8.32**		**2.23**
Cobalt	**7440-48-4**	**2.17**		**0.0440**
Copper	**7440-50-8**	**20.3**		**2.65**
Lead	**7439-92-1**	**1.18**		**0.216**
Manganese	**7439-96-5**	**76.7**		**1.91**
Molybdenum	**7439-98-7**	**1.29**		**0.362**
Nickel	**7440-02-0**	**4.56**		**0.658**
Selenium	**7782-49-2**	**0.415**		**0.00904**
Thallium	**7440-28-0**	**0.00359**		**5.94E-4**
Vanadium	**7440-62-2**	**6.01**		**0.0534**
Zinc	7440-66-6	26.3	U	77.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-120424-HM **Lab ID:** 4120938-19 **Sampled:** 12/04/24 00:00
Matrix: Air **Sample Volume:** 1941.338 m³ **Received:** 12/09/24 10:59
Filter ID: **Analysis Date:** 12/11/24 01:51

Comments: Q9552303 - Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0264	SL, U	0.0323
Arsenic	**7440-38-2**	**0.0128**	FB-01	**0.00785**
Barium	**7440-39-3**	**1.05**	FB-01, QB-01	**0.897**
Beryllium	7440-41-7	0.00159	U	0.00268
Cadmium	7440-43-9	0.00177	U	0.0621
Chromium	7440-47-3	1.43	U	1.85
Cobalt	**7440-48-4**	**0.0434**	FB-01	**0.0365**
Copper	7440-50-8	1.54	U	2.20
Lead	7439-92-1	0.0723	U	0.179
Manganese	7439-96-5	0.676	U	1.58
Molybdenum	7439-98-7	0.245	U	0.301
Nickel	7440-02-0	0.493	U	0.546
Selenium	7782-49-2	0.00694	U	0.00751
Thallium	7440-28-0	7.23E-5	U	4.94E-4
Vanadium	**7440-62-2**	**0.0754**	FB-01	**0.0443**
Zinc	7440-66-6	3.64	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Calibration Blank (2412026-CCB1)				Prepared & Analyzed: 12/10/24						
Antimony	0.480		ng/l							
Arsenic	1.58		ng/l							
Barium	0.504		ng/l							
Beryllium	-0.158		ng/l							U
Cadmium	-0.124		ng/l							U
Chromium	1.63		ng/l							
Cobalt	0.194		ng/l							
Copper	8.71		ng/l							
Lead	2.16		ng/l							
Manganese	2.02		ng/l							
Molybdenum	24.5		ng/l							
Nickel	-0.515		ng/l							U
Selenium	2.09		ng/l							
Thallium	1.17		ng/l							
Vanadium	65.8		ng/l							
Zinc	-66.6		ng/l							U
Calibration Blank (2412026-CCB2)				Prepared & Analyzed: 12/10/24						
Antimony	0.535		ng/l							
Arsenic	4.65		ng/l							
Barium	-0.342		ng/l							U
Beryllium	-0.379		ng/l							U
Cadmium	0.0273		ng/l							
Chromium	2.98		ng/l							
Cobalt	0.0875		ng/l							
Copper	6.74		ng/l							
Lead	1.66		ng/l							
Manganese	2.09		ng/l							
Molybdenum	8.25		ng/l							
Nickel	2.04		ng/l							
Selenium	-4.08		ng/l							U
Thallium	1.08		ng/l							
Vanadium	54.7		ng/l							
Zinc	-77.9		ng/l							U
Calibration Blank (2412026-CCB3)				Prepared & Analyzed: 12/10/24						
Antimony	0.398		ng/l							
Arsenic	0.932		ng/l							
Barium	2.07		ng/l							
Beryllium	-0.790		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Calibration Blank (2412026-CCB3) Contin				Prepared & Analyzed: 12/10/24						
Cadmium	0.0462		ng/l							
Chromium	2.68		ng/l							
Cobalt	0.375		ng/l							
Copper	11.9		ng/l							
Lead	1.96		ng/l							
Manganese	4.66		ng/l							
Molybdenum	6.61		ng/l							
Nickel	3.73		ng/l							
Selenium	-1.80		ng/l							U
Thallium	0.852		ng/l							
Vanadium	31.0		ng/l							
Zinc	-54.9		ng/l							U
Calibration Blank (2412026-CCB4)				Prepared: 12/10/24 Analyzed: 12/11/24						
Antimony	0.487		ng/l							
Arsenic	1.53		ng/l							
Barium	-1.25		ng/l							U
Beryllium	-1.04		ng/l							U
Cadmium	-0.0444		ng/l							U
Chromium	1.67		ng/l							
Cobalt	-0.0737		ng/l							U
Copper	-1.71		ng/l							U
Lead	0.974		ng/l							
Manganese	1.06		ng/l							
Molybdenum	6.13		ng/l							
Nickel	1.05		ng/l							
Selenium	3.73		ng/l							
Thallium	0.780		ng/l							
Vanadium	22.4		ng/l							
Zinc	-70.8		ng/l							U
Calibration Blank (2412026-CCB5)				Prepared: 12/10/24 Analyzed: 12/11/24						
Antimony	0.291		ng/l							
Arsenic	2.29		ng/l							
Barium	0.312		ng/l							
Beryllium	-1.41		ng/l							U
Cadmium	-0.0415		ng/l							U
Chromium	0.902		ng/l							
Cobalt	0.135		ng/l							
Copper	2.34		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Calibration Blank (2412026-CCB5) Contin				Prepared: 12/10/24 Analyzed: 12/11/24						
Lead	1.78		ng/l							
Manganese	2.99		ng/l							
Molybdenum	9.21		ng/l							
Nickel	2.05		ng/l							
Selenium	-3.42		ng/l							U
Thallium	1.11		ng/l							
Vanadium	12.6		ng/l							
Zinc	-67.8		ng/l							U
Calibration Check (2412026-CCV1)				Prepared & Analyzed: 12/10/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4880		ng/l	5000.0		97.7	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.7	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Calibration Check (2412026-CCV2)				Prepared & Analyzed: 12/10/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Calibration Check (2412026-CCV2) Contin					Prepared & Analyzed: 12/10/24					
Selenium	20400		ng/l	20000		102	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2412026-CCV3)					Prepared & Analyzed: 12/10/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	538000		ng/l	500000		108	90-110			
Calibration Check (2412026-CCV4)					Prepared: 12/10/24 Analyzed: 12/11/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	541000		ng/l	500000		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Calibration Check (2412026-CCV5)				Prepared: 12/10/24 Analyzed: 12/11/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		99.0	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	535000		ng/l	500000		107	90-110			
High Cal Check (2412026-HCV1)				Prepared & Analyzed: 12/10/24						
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	405000		ng/l	400000		101	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40200		ng/l	40000		101	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	98500		ng/l	100000		98.5	95-105			
Copper	3.96E6		ng/l	4.0000E6		98.9	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	991000		ng/l	1.0000E6		99.1	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	237000		ng/l	240000		98.6	95-105			
Selenium	40200		ng/l	40000		100	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	40600		ng/l	40000		101	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2412026-ICB1)				Prepared & Analyzed: 12/10/24						
Antimony	0.511		ng/l							
Arsenic	1.82		ng/l							
Barium	-0.897		ng/l							U
Beryllium	-0.441		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Initial Cal Blank (2412026-ICB1) Continu				Prepared & Analyzed: 12/10/24						
Cadmium	-0.0362		ng/l							U
Chromium	2.23		ng/l							
Cobalt	0.0878		ng/l							
Copper	10.1		ng/l							
Lead	4.29		ng/l							
Manganese	3.37		ng/l							
Molybdenum	10.9		ng/l							
Nickel	-1.65		ng/l							U
Selenium	0.260		ng/l							
Thallium	1.06		ng/l							
Vanadium	99.1		ng/l							
Zinc	-5.83		ng/l							U
Initial Cal Check (2412026-ICV1)				Prepared & Analyzed: 12/10/24						
Antimony	19500		ng/l	20000		97.7	90-110			
Arsenic	19600		ng/l	20000		97.9	90-110			
Barium	196000		ng/l	200000		98.0	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	49600		ng/l	50000		99.3	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Interference Check A (2412026-IFA1)				Prepared & Analyzed: 12/10/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412026 - B4J3006										
Interference Check A (2412026-IFA1) Co					Prepared & Analyzed: 12/10/24					
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	322000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2412026-IFB1)					Prepared & Analyzed: 12/10/24					
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		102	80-120			
Beryllium	4960		ng/l	5000.0		99.1	80-120			
Cadmium	19900		ng/l	20000		99.5	80-120			
Chromium	231000		ng/l	240000		96.4	80-120			
Cobalt	51000		ng/l	50000		102	80-120			
Copper	1.92E6		ng/l	2.0000E6		96.2	80-120			
Lead	207000		ng/l	200000		104	80-120			
Manganese	515000		ng/l	500000		103	80-120			
Molybdenum	374000		ng/l	350000		107	80-120			
Nickel	116000		ng/l	120000		96.9	80-120			
Selenium	19300		ng/l	20000		96.7	80-120			
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	19600		ng/l	20000		97.9	80-120			
Zinc	493000		ng/l	500000		98.6	80-120			
Batch B4L1008 - ICP-MS Extraction										
Blank (B4L1008-BLK1)					Prepared & Analyzed: 12/10/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1008 - ICP-MS Extraction										
Blank (B4L1008-BLK1) Continued				Prepared & Analyzed: 12/10/24						
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4L1008-BS1)				Prepared & Analyzed: 12/10/24						
Antimony	0.752	0.0386	ng/m³ Air	1.3829		54.4	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	30.1	1.07	ng/m³ Air	27.658		109	80-120			QB-01
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.6	80-120			
Cadmium	1.45	0.0741	ng/m³ Air	1.3829		105	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.45	0.0436	ng/m³ Air	1.3829		105	80-120			
Copper	30.8	2.63	ng/m³ Air	27.658		111	80-120			
Lead	14.2	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	9.11	1.89	ng/m³ Air	8.2975		110	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.25	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.81	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.143	5.89E-4	ng/m³ Air	0.13829		104	80-120			
Vanadium	2.84	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	96.3	76.8	ng/m³ Air	82.975		116	80-120			
LCS (B4L1008-BS2)				Prepared & Analyzed: 12/10/24						
Antimony	1.37	0.0386	ng/m³ Air	1.3829		99.3	80-120			SL
Arsenic	2.75	0.00937	ng/m³ Air	2.7658		99.3	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			QB-01
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.6	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.68	1.89	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.38	0.359	ng/m³ Air	1.3829		100	80-120			
Nickel	2.78	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.81	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.142	5.89E-4	ng/m³ Air	0.13829		103	80-120			
Vanadium	2.78	0.0529	ng/m³ Air	2.7658		100	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1008 - ICP-MS Extraction										
LCS (B4L1008-BS2) Continued				Prepared & Analyzed: 12/10/24						
Zinc	90.4	76.8	ng/m³ Air	82.975		109	80-120			
Duplicate (B4L1008-DUP1)		**Source: 4120938-02**		Prepared & Analyzed: 12/10/24						
Antimony	0.0717	0.0333	ng/m³ Air		0.0616			15.2	10	SL
Arsenic	0.182	0.00809	ng/m³ Air		0.198			8.54	10	
Barium	3.44	0.924	ng/m³ Air		3.41			0.911	10	QB-01
Beryllium	0.00760	0.00276	ng/m³ Air		0.00760			0.0576	10	
Cadmium	ND	0.0640	ng/m³ Air		ND				10	U
Chromium	2.36	1.91	ng/m³ Air		2.30			2.60	10	
Cobalt	0.263	0.0376	ng/m³ Air		0.262			0.385	10	
Copper	43.2	2.27	ng/m³ Air		42.5			1.55	10	
Lead	0.502	0.185	ng/m³ Air		0.514			2.36	10	
Manganese	7.81	1.63	ng/m³ Air		7.88			0.889	10	
Molybdenum	2.72	0.310	ng/m³ Air		2.77			1.84	10	
Nickel	1.02	0.563	ng/m³ Air		0.957			6.12	10	
Selenium	0.151	0.00774	ng/m³ Air		0.151			0.346	10	
Thallium	8.05E-4	5.09E-4	ng/m³ Air		8.53E-4			5.68	10	
Vanadium	0.955	0.0457	ng/m³ Air		0.981			2.71	10	
Zinc	ND	66.3	ng/m³ Air		ND				10	U
Duplicate (B4L1008-DUP2)		**Source: 4120938-14**		Prepared: 12/10/24 Analyzed: 12/11/24						
Antimony	0.0979	0.0413	ng/m³ Air		0.0950			3.04	10	SL
Arsenic	0.863	0.0100	ng/m³ Air		0.839			2.83	10	
Barium	14.7	1.14	ng/m³ Air		14.4			1.78	10	QB-01
Beryllium	0.0853	0.00342	ng/m³ Air		0.0959			11.6	10	R-F
Cadmium	ND	0.0792	ng/m³ Air		ND				10	U
Chromium	10.3	2.36	ng/m³ Air		10.0			2.66	10	
Cobalt	3.04	0.0466	ng/m³ Air		2.97			2.47	10	
Copper	22.0	2.81	ng/m³ Air		21.6			2.09	10	
Lead	3.00	0.229	ng/m³ Air		2.92			2.55	10	
Manganese	88.1	2.02	ng/m³ Air		85.2			3.40	10	
Molybdenum	1.25	0.384	ng/m³ Air		1.21			2.49	10	
Nickel	5.95	0.697	ng/m³ Air		5.80			2.47	10	
Selenium	0.519	0.00958	ng/m³ Air		0.511			1.43	10	
Thallium	0.00373	6.30E-4	ng/m³ Air		0.00365			2.15	10	
Vanadium	7.15	0.0566	ng/m³ Air		6.99			2.34	10	
Zinc	ND	82.1	ng/m³ Air		ND				10	U
Matrix Spike (B4L1008-MS1)		**Source: 4120938-02**		Prepared & Analyzed: 12/10/24						
Antimony	0.583	0.0333	ng/m³ Air	1.1939	0.0616	43.7	80-120			SL
Arsenic	2.50	0.00809	ng/m³ Air	2.3878	0.198	96.5	80-120			

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FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1008 - ICP-MS Extraction										
Matrix Spike (B4L1008-MS1) Continued Source: 4120938-02 Prepared & Analyzed: 12/10/24										
Barium	27.8	0.924	ng/m³ Air	23.878	3.41	102	80-120			QB-01
Beryllium	1.30	0.00276	ng/m³ Air	1.1939	0.00760	108	80-120			
Cadmium	1.23	0.0640	ng/m³ Air	1.1939	ND	103	80-120			
Chromium	14.6	1.91	ng/m³ Air	11.939	2.30	103	80-120			
Cobalt	1.47	0.0376	ng/m³ Air	1.1939	0.262	101	80-120			
Copper	66.7	2.27	ng/m³ Air	23.878	42.5	101	80-120			
Lead	12.6	0.185	ng/m³ Air	11.939	0.514	101	80-120			
Manganese	15.7	1.63	ng/m³ Air	7.1635	7.88	109	80-120			
Molybdenum	3.88	0.310	ng/m³ Air	1.1939	2.77	93.5	80-120			
Nickel	3.30	0.563	ng/m³ Air	2.3878	0.957	98.1	80-120			
Selenium	2.44	0.00774	ng/m³ Air	2.3878	0.151	95.8	80-120			
Thallium	0.121	5.09E-4	ng/m³ Air	0.11939	8.53E-4	100	80-120			
Vanadium	3.35	0.0457	ng/m³ Air	2.3878	0.981	99.0	80-120			
Zinc	88.6	66.3	ng/m³ Air	71.635	ND	124	80-120			
Matrix Spike Dup (B4L1008-MSD1) Source: 4120938-02 Prepared & Analyzed: 12/10/24										
Antimony	0.579	0.0333	ng/m³ Air	1.1939	0.0616	43.3	80-120	0.758	20	SL
Arsenic	2.54	0.00809	ng/m³ Air	2.3878	0.198	98.1	80-120	1.54	20	
Barium	28.0	0.924	ng/m³ Air	23.878	3.41	103	80-120	0.805	20	QB-01
Beryllium	1.18	0.00276	ng/m³ Air	1.1939	0.00760	98.5	80-120	9.18	20	
Cadmium	1.24	0.0640	ng/m³ Air	1.1939	ND	104	80-120	1.46	20	
Chromium	14.6	1.91	ng/m³ Air	11.939	2.30	103	80-120	0.130	20	
Cobalt	1.50	0.0376	ng/m³ Air	1.1939	0.262	104	80-120	2.19	20	
Copper	68.3	2.27	ng/m³ Air	23.878	42.5	108	80-120	2.38	20	
Lead	12.8	0.185	ng/m³ Air	11.939	0.514	103	80-120	1.62	20	
Manganese	15.5	1.63	ng/m³ Air	7.1635	7.88	106	80-120	1.38	20	
Molybdenum	3.95	0.310	ng/m³ Air	1.1939	2.77	98.7	80-120	1.58	20	
Nickel	3.29	0.563	ng/m³ Air	2.3878	0.957	97.9	80-120	0.151	20	
Selenium	2.52	0.00774	ng/m³ Air	2.3878	0.151	99.3	80-120	3.37	20	
Thallium	0.123	5.09E-4	ng/m³ Air	0.11939	8.53E-4	102	80-120	1.94	20	
Vanadium	3.37	0.0457	ng/m³ Air	2.3878	0.981	99.8	80-120	0.572	20	
Zinc	89.6	66.3	ng/m³ Air	71.635	ND	125	80-120	1.15	20	
Post Spike (B4L1008-PS1) Source: 4120938-02 Prepared & Analyzed: 12/10/24										
Antimony	0.298	0.0333	ng/m³ Air	0.23878	0.0616	99.1	75-125			SL
Arsenic	1.34	0.00809	ng/m³ Air	1.1939	0.198	95.5	75-125			
Barium	5.72	0.924	ng/m³ Air	2.3878	3.41	96.5	75-125			QB-01
Beryllium	0.258	0.00276	ng/m³ Air	0.23878	0.00760	105	75-125			
Cadmium	0.138	0.0640	ng/m³ Air	0.11939	ND	116	75-125			
Chromium	3.51	1.91	ng/m³ Air	1.1939	2.30	101	75-125			

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FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1008 - ICP-MS Extraction										
Post Spike (B4L1008-PS1) Continued		**Source: 4120938-02**		Prepared & Analyzed: 12/10/24						
Cobalt	0.500	0.0376	ng/m³ Air	0.23878	0.262	99.6	75-125			
Copper	54.7	2.27	ng/m³ Air	11.939	42.5	102	75-125			
Lead	24.4	0.185	ng/m³ Air	23.878	0.514	100	75-125			
Manganese	10.5	1.63	ng/m³ Air	2.3878	7.88	108	75-125			
Molybdenum	3.91	0.310	ng/m³ Air	1.1939	2.77	95.6	75-125			
Nickel	3.32	0.563	ng/m³ Air	2.3878	0.957	98.9	75-125			
Selenium	1.29	0.00774	ng/m³ Air	1.1939	0.151	95.6	75-125			
Thallium	0.0605	5.09E-4	ng/m³ Air	5.9696E-2	8.53E-4	100	75-125			
Vanadium	2.14	0.0457	ng/m³ Air	1.1939	0.981	97.1	75-125			
Zinc	ND	66.3	ng/m³ Air	23.878	ND		75-125			U
Dilution Check (B4L1008-SRL1)		**Source: 4120938-02**		Prepared & Analyzed: 12/10/24						
Antimony	ND	0.167	ng/m³ Air		ND				10	SL, U
Arsenic	0.204	0.0404	ng/m³ Air		0.198			2.65	10	
Barium	ND	4.62	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0138	ng/m³ Air		ND				10	U
Cadmium	ND	0.320	ng/m³ Air		ND				10	U
Chromium	ND	9.54	ng/m³ Air		ND				10	U
Cobalt	0.267	0.188	ng/m³ Air		0.262			1.68	10	
Copper	44.3	11.4	ng/m³ Air		42.5			4.17	10	
Lead	ND	0.924	ng/m³ Air		ND				10	U
Manganese	ND	8.16	ng/m³ Air		ND				10	U
Molybdenum	2.76	1.55	ng/m³ Air		2.77			0.309	10	
Nickel	ND	2.81	ng/m³ Air		ND				10	U
Selenium	0.145	0.0387	ng/m³ Air		0.151			4.12	10	
Thallium	ND	0.00254	ng/m³ Air		ND				10	U
Vanadium	1.07	0.228	ng/m³ Air		0.981			8.24	10	
Zinc	ND	332	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 12/17/24 13:49
SUBMITTED: 12/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
R-F	Replicate exceeds DQO criteria.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/19/2024 and Shanna Vasser 12/19/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 11/30/2024 – 12/04/2024
Report No: 4120938

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic and barium in MFL-FB01-120224-HM and for arsenic, barium, cobalt, and vanadium in MFL-FB01-120424-HM

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

December 5 through December 11, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from December 5 through December 11, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from December 5 through December 11 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included

the comment “Numerous gypsum fibers present” for samples collected at the following monitoring stations:

- Opukea Townhomes on December 9
- WW Pump Station #4 on December 9
- Lahaina Recreational Center on December 9 and 10

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer’s procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 “Calibration of Air Sampling Pump” and 073-3, “Air Quality Monitoring” and EPA Environmental Response Team (ERT) SOPs 2008 “General Air Monitoring and Sampling Guidelines” and 2015 “Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

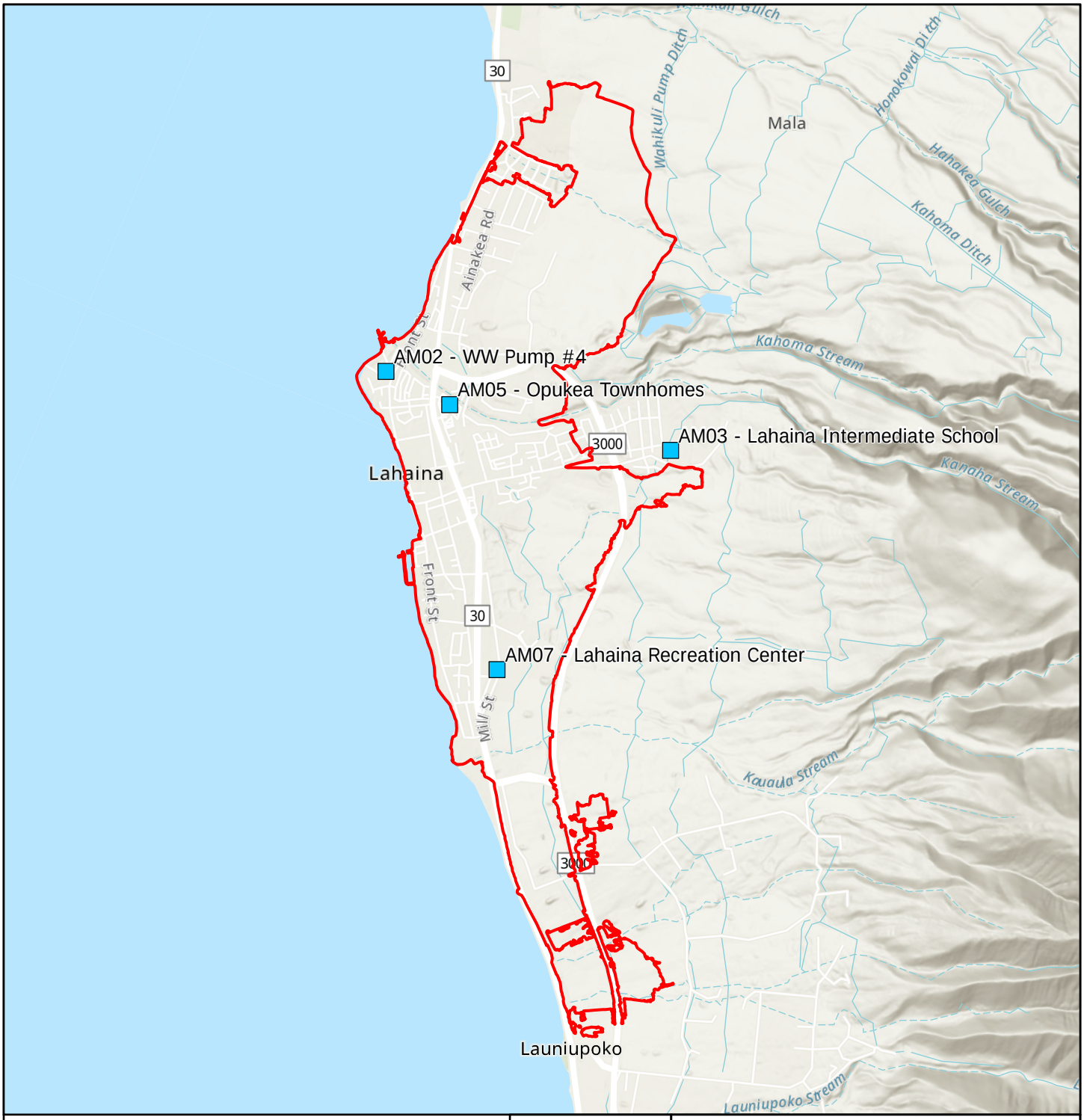
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter

- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
December 5 through December 11, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
12/5/2024	Opukea Townhomes (AM-05)	6.2
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Recreation Center (AM-07)	7.3
12/6/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Recreation Center (AM-07)	6.3
12/7/2024	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	5.2
	Lahaina Recreation Center (AM-07)	6.2
12/8/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	6.3
	Lahaina Recreation Center (AM-07)	5.8
12/9/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Recreation Center (AM-07)	12
12/10/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	14
	Lahaina Recreation Center (AM-07)	13
12/11/2024	Opukea Townhomes (AM-05)	14
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	7.0
	Lahaina Recreation Center (AM-07)	14

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 5 through December 11, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
12/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.000206	0.000417	0.00759	0.0000250	ND	0.00395	0.000805	0.0296	0.000826	0.0268	0.00156	0.00204	0.000220	0.00000257	0.00271	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000234	0.000320	0.00722	0.0000193	ND	0.00394	0.000564	0.0560	0.00117	0.0182	0.00285	0.00185	0.000213	0.00000180	0.00205	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000714	0.000140	0.00280	0.0000205	ND	0.00308	0.000521	0.0428	0.000247	0.0128	0.00282	0.00166	0.000185	0.00000138	0.00139	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000102	0.000513	0.00674	0.0000400	ND	0.00515	0.00119	0.0178	0.00109	0.0403	0.00128	0.00270	0.000277	0.00000246	0.00314	ND
12/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000879	0.000184	0.00341	0.00000833	ND	0.00228	0.000284	0.0461	0.000620	0.00765	0.00246	0.00121	0.000201	0.00000108	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000202	0.000617	0.00757	0.0000182	ND	0.00303	0.000576	0.0485	0.00106	0.0175	0.00231	0.00178	0.000245	0.00000137	0.00256	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000589	0.000131	0.00386	0.0000252	ND	0.00282	0.000399	0.0532	0.000281	0.00887	0.00254	0.00150	0.000220	0.000000972	0.00169	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000679	0.000480	0.00802	0.0000464	ND	0.00572	0.00134	0.0234	0.00128	0.0420	0.00126	0.00328	0.000330	0.00000222	0.00411	ND
12/7/2024	Opukea Townhomes (AM-05)	<0.0027	0.0000857	0.000182	0.00399	0.00000881	ND	0.00213	0.000265	0.0402	0.000477	0.00866	0.00240	0.00118	0.000183	0.000000834	0.00172	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000210	0.00500	0.0000119	ND	0.00221	0.000316	0.0363	0.000746	0.0107	0.00190	0.00121	0.000184	0.000000906	0.00186	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000499	0.000238	0.00296	0.0000172	ND	0.00240	0.000309	0.0604	0.000275	0.00911	0.00306	0.00119	0.000172	0.000000836	0.00152	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.0000705	0.000472	0.00650	0.0000376	ND	0.00537	0.000917	0.0236	0.000794	0.0334	0.00140	0.00239	0.000250	0.00000182	0.00327	ND
12/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000548	0.000162	0.00275	0.00000595	ND	0.00272	0.000197	0.0393	0.000387	0.00593	0.00227	0.00141	0.000148	0.000000592	0.000822	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000150	0.000281	0.00604	0.0000143	ND	0.00249	0.000417	0.0411	0.000864	0.0146	0.00188	0.00131	0.000178	0.000000880	0.00154	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000127	0.00232	0.0000120	ND	0.00219	0.000229	0.0689	0.000196	0.00594	0.00327	0.000921	0.000159	0.000000578	0.000834	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000676	0.000412	0.00558	0.0000331	ND	0.00461	0.000861	0.0198	0.000828	0.0283	0.00126	0.00226	0.000243	0.00000142	0.00247	ND
12/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000919	0.000152	0.00358	0.00000762	ND	0.00223	0.000254	0.0344	0.000350	0.00725	0.00212	0.00113	0.000235	0.00000118	0.00109	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000214	0.000306	0.00750	0.0000171	ND	0.00335	0.000586	0.0453	0.00103	0.0173	0.00216	0.00185	0.000285	0.00000159	0.00222	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000572	0.000128	0.00269	0.0000178	ND	0.00285	0.000305	0.0734	0.000365	0.00785	0.00343	0.00127	0.000252	0.00000126	0.00110	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000966	0.000838	0.00806	0.0000443	ND	0.00639	0.00136	0.0223	0.00110	0.0456	0.00135	0.00332	0.000357	0.00000289	0.00403	ND
12/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.000129	0.000338	0.00669	0.0000180	ND	0.00378	0.000670	0.0389	0.000696	0.0184	0.00207	0.00215	0.000226	0.00000176	0.00209	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000199	0.000424	0.00850	0.0000268	ND	0.00442	0.000862	0.0442	0.00144	0.0246	0.00158	0.00256	0.000260	0.00000181	0.00284	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000727	0.000213	0.00469	0.0000380	ND	0.00393	0.000634	0.0606	0.000394	0.0150	0.00304	0.00202	0.000228	0.00000160	0.00176	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000113	0.00121	0.0120	0.0000665	ND	0.00827	0.00191	0.0245	0.00137	0.0673	0.00144	0.00440	0.000397	0.00000345	0.00520	ND
12/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.000183	0.000696	0.0132	0.0000432	ND	0.00826	0.00180	0.0419	0.00180	0.0482	0.00217	0.00494	0.000266	0.00000263	0.00545	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000188	0.000977	0.0195	0.0000731	0.000206	0.0108	0.00248	0.0559	0.00365	0.0679	0.00168	0.00676	0.000344	0.00000309	0.00805	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000556	0.000274	0.00624	0.0000637	ND	0.00559	0.00102	0.0618	0.000748	0.0249	0.00315	0.00289	0.000230	0.00000192	0.00270	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000110	0.00173	0.0174	0.000107	ND	0.0145	0.00323	0.0247	0.00233	0.104	0.00128	0.00736	0.000487	0.00000526	0.00828	ND
95% Upper Confidence Limit[2]		NA	0.000140	0.000580	0.00850	0.0000430	NA	0.00550	0.00119	0.0486	0.00127	0.0372	0.00241	0.00297	0.000270	0.00000220	0.00351	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 5, through December 11, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/5/2024	AM-02	WW Pump Station #4	0.9	ESE	78	68	761.7
12/5/2024	AM-03	Lahaina Intermediate School	1.2	ESE	76	63	752.3
12/5/2024	AM-05	Opukea Townhomes	1.4	SE	77	63	761.2
12/5/2024	AM-07	Lahaina Recreational Center	1.5	ESE	76	68	760.9
12/6/2024	AM-02	WW Pump Station #4	0.9	SE	78	67	762.0
12/6/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	64	752.5
12/6/2024	AM-05	Opukea Townhomes	1.2	SE	77	63	761.5
12/6/2024	AM-07	Lahaina Recreational Center	1.4	SE	76	66	761.1
12/7/2024	AM-02	WW Pump Station #4	0.9	SSE	78	67	761.7
12/7/2024	AM-03	Lahaina Intermediate School	1.0	ESE	77	61	752.3
12/7/2024	AM-05	Opukea Townhomes	1.2	SE	78	61	761.2
12/7/2024	AM-07	Lahaina Recreational Center	1.3	SE	76	66	760.9
12/8/2024	AM-02	WW Pump Station #4	0.9	SE	78	69	761.5
12/8/2024	AM-03	Lahaina Intermediate School	1.1	ESE	77	67	752.0
12/8/2024	AM-05	Opukea Townhomes	1.3	SE	77	65	761.0
12/8/2024	AM-07	Lahaina Recreational Center	1.3	SE	76	69	760.6
12/9/2024	AM-02	WW Pump Station #4	1.2	SE	79	64	761.7
12/9/2024	AM-03	Lahaina Intermediate School	1.2	ESE	77	60	752.3
12/9/2024	AM-05	Opukea Townhomes	1.4	ESE	78	59	761.2
12/9/2024	AM-07	Lahaina Recreational Center	1.4	SE	77	64	760.9
12/10/2024	AM-02	WW Pump Station #4	1.5	SE	79	62	762.0
12/10/2024	AM-03	Lahaina Intermediate School	1.5	ESE	77	62	752.5
12/10/2024	AM-05	Opukea Townhomes	1.5	ESE	78	59	761.5
12/10/2024	AM-07	Lahaina Recreational Center	1.6	SSE	77	63	761.1
12/11/2024	AM-02	WW Pump Station #4	1.0	S	80	54	762.4
12/11/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	52	752.9
12/11/2024	AM-05	Opukea Townhomes	1.1	SE	80	50	761.9
12/11/2024	AM-07	Lahaina Recreational Center	1.6	S	78	54	761.5

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042425152
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/18/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120524-AB**	**Sample Description:**	**DL698147**
EMSL Sample Number:	042425152-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7188.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0001 **Customer Sample:** MFL-AM05-120524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J6	None Detected									
A5	J4	None Detected									
A6	H3	None Detected									
A6	F2	None Detected									
A7	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042425152
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/18/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120524-AB**		**Sample Description:**	**DL698264**
EMSL Sample Number:	042425152-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6962.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0002 **Customer Sample:** MFL-AM02-120524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I8	None Detected									
B1	G9	None Detected									
B2	C6	None Detected									
B2	E3	None Detected									
B3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120524-AB**	**Sample Description:**	**DL698502**
EMSL Sample Number:	042425152-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7223.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0003 **Customer Sample:** MFL-AM03-120524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A7	None Detected									
B5	C6	None Detected									
B6	B5	None Detected									
B6	D3	None Detected									
B7	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120524-AB**	**Sample Description:**	**DL698159**
EMSL Sample Number:	042425152-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7239.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0004 **Customer Sample:** MFL-AM07-120524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J6	None Detected									
C1	H7	None Detected									
C2	E9	None Detected									
C2	F10	None Detected									
C3	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-120524-AB** **Sample Description:** **DL694733**

EMSL Sample Number:	042425152-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0005 **Customer Sample:** MFL-FB01-120524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	G3	None Detected									
C5	G5	None Detected									
C5	H4	None Detected									
C5	H6	None Detected									
C6	A5	None Detected									
C6	A7	None Detected									
C6	B8	None Detected									
C7	J5	None Detected									
C7	E1	None Detected									
C7	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120624-AB**	**Sample Description:**	**DL698010**
EMSL Sample Number:	042425152-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7201.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0006 **Customer Sample:** MFL-AM05-120624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	E9	None Detected									
D1	F8	None Detected									
D2	J5	None Detected									
D2	I4	None Detected									
D3	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120624-AB**	**Sample Description:**	**DL697998**
EMSL Sample Number:	042425152-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7124.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0007 **Customer Sample:** MFL-AM02-120624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	C2	None Detected									
D5	E3	None Detected									
D6	B4	None Detected									
D6	F8	None Detected									
D7	H1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042425152
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120624-AB**	**Sample Description:**	**DL698495**
EMSL Sample Number:	042425152-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7205.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0008 **Customer Sample:** MFL-AM03-120624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I8	None Detected									
E1	H7	None Detected									
E2	A3	None Detected									
E2	C1	None Detected									
E3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120624-AB**		**Sample Description:**	**DL698485**
EMSL Sample Number:	042425152-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7320.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0009 **Customer Sample:** MFL-AM07-120624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	C10	None Detected									
E6	A5	None Detected									
E6	D4	None Detected									
E7	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-120624-AB** **Sample Description: DL698156**

EMSL Sample Number:	042425152-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0010 **Customer Sample:** MFL-FB01-120624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C2	None Detected									
F1	C4	None Detected									
F1	D5	None Detected									
F1	D7	None Detected									
F2	A6	None Detected									
F2	A8	None Detected									
F2	B9	None Detected									
F3	J3	None Detected									
F3	J1	None Detected									
F3	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120724-AB**	**Sample Description:**	**DL698018**
EMSL Sample Number:	042425152-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6889.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0011 **Customer Sample:** MFL-AM05-120724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	D10	None Detected									
F5	E9	None Detected									
F6	J6	None Detected									
F6	I5	None Detected									
F7	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120724-AB**	**Sample Description:**	**DL698166**
EMSL Sample Number:	042425152-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7062.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0012 **Customer Sample:** MFL-AM02-120724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J4	None Detected									
G1	I3	None Detected									
G2	C7	None Detected									
G2	E9	None Detected									
G3	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042425152
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120724-AB**	**Sample Description:**	**DL697979**
EMSL Sample Number:	042425152-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7220.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0013 **Customer Sample:** MFL-AM03-120724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I7	None Detected									
G5	H6	None Detected									
G6	F8	None Detected									
G6	E5	None Detected									
G7	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120724-AB**	**Sample Description:**	**DL698143**
EMSL Sample Number:	042425152-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6776.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0014 **Customer Sample:** MFL-AM07-120724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A6	None Detected									
H1	B7	None Detected									
H2	J4	None Detected									
H2	I3	None Detected									
H3	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
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Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-120724-AB** **Sample Description:** **DL698071**

EMSL Sample Number:	042425152-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0015 **Customer Sample:** MFL-FB01-120724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J10	None Detected									
H5	E9	None Detected									
H5	E7	None Detected									
H5	D6	None Detected									
H6	C8	None Detected									
H6	C10	None Detected									
H6	E7	None Detected									
H7	I8	None Detected									
H7	I6	None Detected									
H7	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120824-AB**		**Sample Description:**	**DL697993**
EMSL Sample Number:	042425152-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0016 **Customer Sample:** MFL-AM05-120824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	C3	None Detected									
I1	D4	None Detected									
I2	A5	None Detected									
I2	B7	None Detected									
I3	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042425152
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120824-AB**		**Sample Description:**	**DL697977**
EMSL Sample Number:	042425152-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6947.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0017 **Customer Sample:** MFL-AM02-120824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A4	None Detected									
I5	A2	None Detected									
I6	C8	None Detected									
I6	D9	None Detected									
I7	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120824-AB**	**Sample Description:**	**DL698176**
EMSL Sample Number:	042425152-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7193.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0018 **Customer Sample:** MFL-AM03-120824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B8	None Detected									
J1	C9	None Detected									
J2	D6	None Detected									
J2	E7	None Detected									
J3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/19/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120824-AB**	**Sample Description:**	**DL698037**
EMSL Sample Number:	042425152-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7225.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0019 **Customer Sample:** MFL-AM07-120824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H5	None Detected									
J5	I6	None Detected									
J6	B4	None Detected									
J6	C5	None Detected									
J6	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	12/19/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-120824-AB** **Sample Description: DL692790**

EMSL Sample Number:	042425152-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0020 **Customer Sample:** MFL-FB01-120824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	H8	None Detected									
K1	H6	None Detected									
K1	G9	None Detected									
K1	G7	None Detected									
K2	E1	None Detected									
K2	F2	None Detected									
K2	G1	None Detected									
K3	J10	None Detected									
K3	C10	None Detected									
K3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	12/11/2024 11:55 AM
Analysis Date:	12/18/2024
Report Date:	12/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042425152-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042425152**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042425152-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B5	None Detected									
A1	B7	None Detected									
A1	D6	None Detected									
A1	D8	None Detected									
A2	C3	None Detected									
A2	C5	None Detected									
A2	F6	None Detected									
A3	A7	None Detected									
A3	A9	None Detected									
A3	E10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042425152

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ave STE1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

RECEIVED EMSL CINNAMINSON, NJ 2024 DEC 11

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207[illegible]85
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-120524-AB	DL698147	7,188.202	12/05/24 1053
MFL-AM02-120524-AB	DL698264	6,962.817	12/05/24 1110
MFL-AM03-120524-AB	DL698502	7,223.058	12/05/24 1255
MFL-AM07-120524-AB	DL698159	7,239.020	12/05/24 1315
MFL-FB01-120524-AB	DL694733	0	12/05/24 1200
MFL-AM05-120624-AB	DL698010	7,201.619	12/06/24 1055
MFL-AM02-120624-AB	DL697998	7,124.775	12/06/24 1108
MFL-AM03-120624-AB	DL698495	7,205.936	12/06/24 1256

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
[signature]	12/09/24 1100	[signature] FR	12/11/24 1155a
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042425152

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-120624-AB	DL698485	7,320.481	12/06/24 1316
MFL-FB01-120624-AB	DL698156	0	12/06/24 1200
MFL-AM05-120724-AB	DL698018	6,889.374	12/07/24 1052
MFL-AM02-120724-AB	DL698166	7,062.496	12/07/24 1107
MFL-AM03-120724-AB	DL697979	7,220.207	12/07/24 1255
MFL-AM07-120724-AB	DL698143	6,776.648	12/07/24 1316
MFL-FB01-120724-AB	DL698071	0	12/07/24 1200
MFL-AM05-120824-AB	DL697993	7,232.707	12/08/24 1058
MFL-AM02-120824-AB	DL697977	6,947.061	12/08/24 1112
MFL-AM03-120824-AB	DL698176	7,193.355	12/08/24 1256
MFL-AM07-120824-AB	DL698037	7,225.352	12/08/24 1314
MFL-FB01-120824-AB	DL692790	0	12/08/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 DEC 11 A 11:52

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 12/09/24 1100	Received by:	Date/Time: 12/11/24 11:52
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/30/2024 and Shanna Vasser 01/03/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/05/2024 – 12/08/2024
Report No: 42425152

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-120924-AB**		**Sample Description:**	**DL698538**
EMSL Sample Number:	000004308-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0001 **Customer Sample:** MFL-AM05-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	J5	None Detected									
B2	G3	None Detected									
B2	C1	None Detected									
B3	H2	None Detected									
B3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-120924-AB**		**Sample Description:**	**DL692798**
EMSL Sample Number:	000004308-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6947.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0002 **Customer Sample:** MFL-AM02-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J2	None Detected									
B5	G6	None Detected									
B5	C9	None Detected									
B6	B5	None Detected									
B6	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-120924-AB**	**Sample Description:**	**DL692789**
EMSL Sample Number:	000004308-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7183.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0003 **Customer Sample:** MFL-AM03-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A6	None Detected									
C2	C8	None Detected									
C2	G5	None Detected									
C3	B6	None Detected									
C3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-120924-AB**		**Sample Description:**	**DL692801**
EMSL Sample Number:	000004308-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0004 **Customer Sample:** MFL-AM07-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A5	None Detected									
C5	E8	None Detected									
C5	H4	None Detected									
C6	A4	None Detected									
C6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-120924-AB**		**Sample Description:**	**DL692812**
EMSL Sample Number:	000004308-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0005 **Customer Sample:** MFL-FB01-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J1	None Detected									
D2	H2	None Detected									
D2	F4	None Detected									
D2	D7	None Detected									
D2	B8	None Detected									
D3	J1	None Detected									
D3	H6	None Detected									
D3	F7	None Detected									
D3	D1	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-120924-AB**		**Sample Description:**	**DL692793**
EMSL Sample Number:	000004308-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0006 **Customer Sample:** MFL-LB01-120924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J6	None Detected									
D5	H3	None Detected									
D5	F8	None Detected									
D5	D5	None Detected									
D5	B4	None Detected									
D6	J5	None Detected									
D6	H3	None Detected									
D6	F2	None Detected									
D6	D9	None Detected									
D6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121024-AB**		**Sample Description:**	**DL692791**
EMSL Sample Number:	000004308-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0007 **Customer Sample:** MFL-AM05-121024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	A7	None Detected									
E2	D6	None Detected									
E2	G8	None Detected									
E3	A10	None Detected									
E3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121024-AB**		**Sample Description:**	**DL692782**
EMSL Sample Number:	000004308-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7054.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0008 **Customer Sample:** MFL-AM02-121024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	E4	None Detected									
E5	I2	None Detected									
E6	B2	None Detected									
E6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121024-AB**	**Sample Description:**	**DL692813**
EMSL Sample Number:	000004308-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7229.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0009 **Customer Sample:** MFL-AM03-121024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A5	None Detected									
F2	C8	None Detected									
F2	G6	None Detected									
F3	B7	None Detected									
F3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121024-AB**	**Sample Description:**	**DL692809**
EMSL Sample Number:	000004308-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7317.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0010 **Customer Sample:** MFL-AM07-121024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	H4	None Detected									
F5	E7	None Detected									
F5	C9	None Detected									
F6	C2	None Detected									
F6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-121024-AB** **Sample Description: DL692814**

EMSL Sample Number:	000004308-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0011 **Customer Sample:** MFL-FB01-121024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A8	None Detected									
G2	C10	None Detected									
G2	E8	None Detected									
G2	G6	None Detected									
G2	I7	None Detected									
G3	J1	None Detected									
G3	H5	None Detected									
G3	F2	None Detected									
G3	D1	None Detected									
G3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
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Phone:	(703) 489-2674
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Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121124-AB**		**Sample Description:**	**DL692761**
EMSL Sample Number:	000004308-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0012 **Customer Sample:** MFL-AM05-121124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I5	None Detected									
G5	G3	None Detected									
G5	D3	None Detected									
G6	I4	None Detected									
G6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121124-AB**		**Sample Description:**	**DL692792**
EMSL Sample Number:	000004308-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6953.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0013 **Customer Sample:** MFL-AM02-121124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J2	None Detected									
H2	G3	None Detected									
H2	C2	None Detected									
H3	I2	None Detected									
H3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121124-AB**		**Sample Description:**	**DL692765**
EMSL Sample Number:	000004308-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0014 **Customer Sample:** MFL-AM03-121124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A5	None Detected									
H5	E7	None Detected									
H5	I4	None Detected									
H6	I7	None Detected									
H6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/14/2024 11:15 AM
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Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121124-AB**		**Sample Description:**	**DL692805**
EMSL Sample Number:	000004308-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0015 **Customer Sample:** MFL-AM07-121124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	I4	None Detected									
I2	F2	None Detected									
I2	D5	None Detected									
I3	B4	None Detected									
I3	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
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Customer PO:	1207085
Project ID:	N/A

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Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-121124-AB**		**Sample Description:**	**DL692795**
EMSL Sample Number:	000004308-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0016 **Customer Sample:** MFL-FB01-121124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	H10	None Detected									
I5	F7	None Detected									
I5	D9	None Detected									
I5	B7	None Detected									
I6	J9	None Detected									
I6	H10	None Detected									
I6	F7	None Detected									
I6	D10	None Detected									
I6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04308
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/14/2024 11:15 AM
Analysis Date:	12/24/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004308-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004308**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004308-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A8	None Detected									
A1	C6	None Detected									
A1	E9	None Detected									
A1	G10	None Detected									
A1	I8	None Detected									
A2	J1	None Detected									
A2	H4	None Detected									
A2	F3	None Detected									
A2	D5	None Detected									
A2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-308

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only:

RECEIVED EMSL CINNAMINSON, NJ

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ave STE 1400
City, State, Zip: Denver CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name: 24 DEC 14 AM 11:14
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312* KP 12-23-24

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
1	MFL-AM05-120924-AB	DL698538	7,158.388	12/09/24 1057
2	MFL-AM02-120924-AB	DL692798	6,947.294	12/09/24 1113
3	MFL-AM03-120924-AB	DL692789	7,182.978	12/09/24 1253
4	MFL-AM07-120924-AB	DL692801	7,193.875	12/09/24 1310
5	MFL-FB01-120924-AB	DL692812	0	12/09/24 1200
6	MFL-LB01-120924-AB	DL692793	0	12/09/24 1200
7	MFL-AM05-121024-AB	DL692791	7,201.648	12/10/24 1058
8	MFL-AM02-121029-AB	DL692782	7,054.827	12/10/24 1120

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Shaina Epstein	Date/Time: 12/12/24 1100	Received by:	Date/Time: 12/14/24 11:15 pm
Relinquished by:	Date/Time:	Received by:	Date/Time:

(16) LD FY

Controlled Document - COC-05 Asbestos R16 10/28/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

04-508

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

RECEIVED EMSL CINNAMINSON, NJ
24 DEC 14 AM 11:14

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
9	MFL-AM03-121024-AB	DL6928I3	7,229.209	12/10/24 1256
10	MFL-AM07-121024-AB	DL692809	7,317.209	12/10/24 1324
11	MFL-PB01-121024-AB	DL692814	0	12/10/24 1200
12	MFL-AM05-121124-AB	DL692761	7,110.495	12/11/24 1052
13	MFL-AM02-121124-AB	DL692792	6,953.572	12/11/24 1107
14	MFL-AM03-121124-AB	DL692765	7,215.623	12/11/24 1259
15	MFL-AM07-121124-AB	DL692805	7,203.981	12/11/24 1322
16	MFL-PB01-121124-AB	DL692795	0	12/11/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shanna Epsten	Date/Time: 12/12/24 1100	Received by: [signature]	Date/Time: 12/14/24 11:15am
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/30/2024 and Shanna Vasser 01/03/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/09/2024 – 12/11/2024
Report No: 04-308

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

December 26, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/16/24 10:25.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-120524-HM	4121638-01	Air	12/05/24 23:59	12/16/24 10:25
MFL-AM02-120524-HM	4121638-02	Air	12/05/24 23:59	12/16/24 10:25
MFL-AM03-120524-HM	4121638-03	Air	12/05/24 23:59	12/16/24 10:25
MFL-AM07-120524-HM	4121638-04	Air	12/05/24 23:59	12/16/24 10:25
MFL-AM05-120624-HM	4121638-05	Air	12/06/24 23:59	12/16/24 10:25
MFL-AM02-120624-HM	4121638-06	Air	12/06/24 23:59	12/16/24 10:25
MFL-AM03-120624-HM	4121638-07	Air	12/06/24 23:59	12/16/24 10:25
MFL-AM07-120624-HM	4121638-08	Air	12/06/24 23:59	12/16/24 10:25
MFL-FB01-120624-HM	4121638-09	Air	12/06/24 00:00	12/16/24 10:25
MFL-AM05-120724-HM	4121638-10	Air	12/07/24 23:59	12/16/24 10:25
MFL-AM02-120724-HM	4121638-11	Air	12/07/24 23:59	12/16/24 10:25
MFL-AM03-120724-HM	4121638-12	Air	12/07/24 23:59	12/16/24 10:25
MFL-AM07-120724-HM	4121638-13	Air	12/07/24 23:59	12/16/24 10:25
MFL-AM05-120824-HM	4121638-14	Air	12/08/24 23:59	12/16/24 10:25
MFL-AM02-120824-HM	4121638-15	Air	12/08/24 23:59	12/16/24 10:25
MFL-AM03-120824-HM	4121638-16	Air	12/08/24 23:59	12/16/24 10:25
MFL-AM07-120824-HM	4121638-17	Air	12/08/24 23:59	12/16/24 10:25
MFL-FB01-120824-HM	4121638-18	Air	12/08/24 00:00	12/16/24 10:25
MFL-AM05-120924-HM	4121638-19	Air	12/09/24 23:59	12/16/24 10:25
MFL-AM02-120924-HM	4121638-20	Air	12/09/24 23:59	12/16/24 10:25
MFL-AM03-120924-HM	4121638-21	Air	12/09/24 23:59	12/16/24 10:25

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-120924-HM	4121638-22	Air	12/09/24 23:59	12/16/24 10:25
MFL-LB01-120924-HM	4121638-23	Air	12/09/24 00:00	12/16/24 10:25
MFL-AM05-121024-HM	4121638-24	Air	12/10/24 23:59	12/16/24 10:25
MFL-AM02-121024-HM	4121638-25	Air	12/10/24 23:59	12/16/24 10:25
MFL-AM03-121024-HM	4121638-26	Air	12/10/24 23:59	12/16/24 10:25
MFL-AM07-121024-HM	4121638-27	Air	12/10/24 23:59	12/16/24 10:25
MFL-FB01-121024-HM	4121638-28	Air	12/10/24 00:00	12/16/24 10:25
MFL-AM05-121124-HM	4121638-29	Air	12/11/24 23:59	12/16/24 10:25
MFL-AM02-121124-HM	4121638-30	Air	12/11/24 23:59	12/16/24 10:25
MFL-AM03-121124-HM	4121638-31	Air	12/11/24 23:59	12/16/24 10:25
MFL-AM07-121124-HM	4121638-32	Air	12/11/24 23:59	12/16/24 10:25

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120524-HM
Matrix: Air
Lab ID: 4121638-01
Sample Volume: 1933.225 m³
Filter ID:
Sampled: 12/05/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 00:11

Comments: Q9552305 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.206**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.417**		**0.00789**
Barium	**7440-39-3**	**7.59**	QB-01	**0.901**
Beryllium	**7440-41-7**	**0.0250**		**0.00269**
Cadmium	7440-43-9	0.0403	U	0.0624
Chromium	**7440-47-3**	**3.95**		**1.86**
Cobalt	**7440-48-4**	**0.805**		**0.0367**
Copper	**7440-50-8**	**29.6**		**2.21**
Lead	**7439-92-1**	**0.826**		**0.180**
Manganese	**7439-96-5**	**26.8**		**1.59**
Molybdenum	**7439-98-7**	**1.56**		**0.302**
Nickel	**7440-02-0**	**2.04**		**0.549**
Selenium	**7782-49-2**	**0.220**		**0.00754**
Thallium	**7440-28-0**	**0.00257**		**4.96E-4**
Vanadium	**7440-62-2**	**2.71**		**0.0445**
Zinc	7440-66-6	20.2	U	64.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120524-HM
Matrix: Air
Lab ID: 4121638-02
Sample Volume: 2143.229 m³
Filter ID:
Sampled: 12/05/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/17/24 17:45

Comments: Q9552304 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.234**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.320**		**0.00711**
Barium	**7440-39-3**	**7.22**	QB-01	**0.812**
Beryllium	**7440-41-7**	**0.0193**		**0.00243**
Cadmium	7440-43-9	0.0147	U	0.0563
Chromium	**7440-47-3**	**3.94**		**1.68**
Cobalt	**7440-48-4**	**0.564**		**0.0331**
Copper	**7440-50-8**	**56.0**	QM-07	**2.00**
Lead	**7439-92-1**	**1.17**		**0.162**
Manganese	**7439-96-5**	**18.2**		**1.43**
Molybdenum	**7439-98-7**	**2.85**	QM-07	**0.273**
Nickel	**7440-02-0**	**1.85**		**0.495**
Selenium	**7782-49-2**	**0.213**	SRD-01	**0.00680**
Thallium	**7440-28-0**	**0.00180**		**4.47E-4**
Vanadium	**7440-62-2**	**2.05**		**0.0402**
Zinc	7440-66-6	22.6	U	58.3

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120524-HM **Lab ID:** 4121638-03 **Sampled:** 12/05/24 23:59
Matrix: Air **Sample Volume:** 1945.851 m³ **Received:** 12/16/24 10:25
Filter ID: **Analysis Date:** 12/18/24 00:27

Comments: Q9552300 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0714**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.140**		**0.00783**
Barium	**7440-39-3**	**2.80**	QB-01	**0.895**
Beryllium	**7440-41-7**	**0.0205**		**0.00268**
Cadmium	7440-43-9	0.0109	U	0.0620
Chromium	**7440-47-3**	**3.08**		**1.85**
Cobalt	**7440-48-4**	**0.521**		**0.0365**
Copper	**7440-50-8**	**42.8**		**2.20**
Lead	**7439-92-1**	**0.247**		**0.179**
Manganese	**7439-96-5**	**12.8**		**1.58**
Molybdenum	**7439-98-7**	**2.82**		**0.300**
Nickel	**7440-02-0**	**1.66**		**0.545**
Selenium	**7782-49-2**	**0.185**		**0.00749**
Thallium	**7440-28-0**	**0.00138**		**4.92E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0442**
Zinc	7440-66-6	7.63	U	64.2

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120524-HM
Matrix: Air
Lab ID: 4121638-04
Sample Volume: 1587.532 m³
Filter ID:
Sampled: 12/05/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 00:41

Comments: Q9552299 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0396**
Arsenic	**7440-38-2**	**0.513**		**0.00960**
Barium	**7440-39-3**	**6.74**	QB-01	**1.10**
Beryllium	**7440-41-7**	**0.0400**		**0.00328**
Cadmium	7440-43-9	0.0225	U	0.0759
Chromium	**7440-47-3**	**5.15**		**2.26**
Cobalt	**7440-48-4**	**1.19**		**0.0447**
Copper	**7440-50-8**	**17.8**		**2.70**
Lead	**7439-92-1**	**1.09**		**0.219**
Manganese	**7439-96-5**	**40.3**		**1.94**
Molybdenum	**7439-98-7**	**1.28**		**0.368**
Nickel	**7440-02-0**	**2.70**		**0.668**
Selenium	**7782-49-2**	**0.277**		**0.00918**
Thallium	**7440-28-0**	**0.00246**		**6.04E-4**
Vanadium	**7440-62-2**	**3.14**		**0.0542**
Zinc	7440-66-6	15.1	U	78.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120624-HM
Matrix: Air
Lab ID: 4121638-05
Sample Volume: 1941.338 m³
Filter ID:
Sampled: 12/06/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 00:56

Comments: Q9552297 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0879**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.184**		**0.00785**
Barium	**7440-39-3**	**3.41**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.00833**		**0.00268**
Cadmium	7440-43-9	0.0100	U	0.0621
Chromium	**7440-47-3**	**2.28**		**1.85**
Cobalt	**7440-48-4**	**0.284**		**0.0365**
Copper	**7440-50-8**	**46.1**		**2.20**
Lead	**7439-92-1**	**0.620**		**0.179**
Manganese	**7439-96-5**	**7.65**		**1.58**
Molybdenum	**7439-98-7**	**2.46**		**0.301**
Nickel	**7440-02-0**	**1.21**		**0.546**
Selenium	**7782-49-2**	**0.201**		**0.00751**
Thallium	**7440-28-0**	**0.00108**		**4.94E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0443**
Zinc	7440-66-6	13.6	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120624-HM
Matrix: Air
Lab ID: 4121638-06
Sample Volume: 2135.181 m³
Filter ID:
Sampled: 12/06/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 01:11

Comments: Q9552296 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.202**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.617**		**0.00714**
Barium	**7440-39-3**	**7.57**	QB-01	**0.815**
Beryllium	**7440-41-7**	**0.0182**		**0.00244**
Cadmium	7440-43-9	0.0173	U	0.0565
Chromium	**7440-47-3**	**3.03**		**1.68**
Cobalt	**7440-48-4**	**0.576**		**0.0332**
Copper	**7440-50-8**	**48.5**		**2.00**
Lead	**7439-92-1**	**1.06**		**0.163**
Manganese	**7439-96-5**	**17.5**		**1.44**
Molybdenum	**7439-98-7**	**2.31**		**0.274**
Nickel	**7440-02-0**	**1.78**		**0.497**
Selenium	**7782-49-2**	**0.245**		**0.00683**
Thallium	**7440-28-0**	**0.00137**		**4.49E-4**
Vanadium	**7440-62-2**	**2.56**		**0.0403**
Zinc	7440-66-6	20.9	U	58.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120624-HM
Matrix: Air
Lab ID: 4121638-07
Sample Volume: 1949.109 m³
Filter ID:
Sampled: 12/06/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 01:26

Comments: Q9552292 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0589**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.131**		**0.00782**
Barium	**7440-39-3**	**3.86**	QB-01	**0.893**
Beryllium	**7440-41-7**	**0.0252**		**0.00267**
Cadmium	7440-43-9	0.0107	U	0.0619
Chromium	**7440-47-3**	**2.82**		**1.84**
Cobalt	**7440-48-4**	**0.399**		**0.0364**
Copper	**7440-50-8**	**53.2**		**2.20**
Lead	**7439-92-1**	**0.281**		**0.179**
Manganese	**7439-96-5**	**8.87**		**1.58**
Molybdenum	**7439-98-7**	**2.54**		**0.300**
Nickel	**7440-02-0**	**1.50**		**0.544**
Selenium	**7782-49-2**	**0.220**		**0.00748**
Thallium	**7440-28-0**	**9.72E-4**		**4.92E-4**
Vanadium	**7440-62-2**	**1.69**		**0.0442**
Zinc	7440-66-6	9.43	U	64.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120624-HM
Matrix: Air
Lab ID: 4121638-08
Sample Volume: 1757.71 m³
Filter ID:
Sampled: 12/06/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 01:40

Comments: Q9552291 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0679**	SL	**0.0357**
Arsenic	**7440-38-2**	**0.480**		**0.00867**
Barium	**7440-39-3**	**8.02**	QB-01	**0.990**
Beryllium	**7440-41-7**	**0.0464**		**0.00296**
Cadmium	7440-43-9	0.0180	U	0.0686
Chromium	**7440-47-3**	**5.72**		**2.05**
Cobalt	**7440-48-4**	**1.34**		**0.0404**
Copper	**7440-50-8**	**23.4**		**2.43**
Lead	**7439-92-1**	**1.28**		**0.198**
Manganese	**7439-96-5**	**42.0**		**1.75**
Molybdenum	**7439-98-7**	**1.26**		**0.332**
Nickel	**7440-02-0**	**3.28**		**0.604**
Selenium	**7782-49-2**	**0.330**		**0.00829**
Thallium	**7440-28-0**	**0.00222**		**5.45E-4**
Vanadium	**7440-62-2**	**4.11**		**0.0490**
Zinc	7440-66-6	13.3	U	71.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-120624-HM **Lab ID:** 4121638-09 **Sampled:** 12/06/24 00:00
Matrix: Air **Sample Volume:** 1941.338 m³ **Received:** 12/16/24 10:25
Filter ID: **Analysis Date:** 12/18/24 01:54

Comments: Q9552286 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00977	SL, U	0.0323
Arsenic	7440-38-2	0.00496	U	0.00785
Barium	7440-39-3	0.834	QB-01, U	0.897
Beryllium	7440-41-7	0.00107	U	0.00268
Cadmium	7440-43-9	0.00220	U	0.0621
Chromium	7440-47-3	1.37	U	1.85
Cobalt	7440-48-4	0.0269	U	0.0365
Copper	**7440-50-8**	**2.37**	FB-01	**2.20**
Lead	7439-92-1	0.0524	U	0.179
Manganese	7439-96-5	0.303	U	1.58
Molybdenum	**7439-98-7**	**0.333**	FB-01	**0.301**
Nickel	7440-02-0	0.371	U	0.546
Selenium	7782-49-2	0.00564	U	0.00751
Thallium	7440-28-0	3.19E-5	U	4.94E-4
Vanadium	7440-62-2	0.0320	U	0.0443
Zinc	7440-66-6	3.09	U	64.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120724-HM
Matrix: Air
Lab ID: 4121638-10
Sample Volume: 1907.121 m³
Filter ID:
Sampled: 12/07/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 02:08

Comments: Q9552290 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0857**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.182**		**0.00799**
Barium	**7440-39-3**	**3.99**	QB-01	**0.913**
Beryllium	**7440-41-7**	**0.00881**		**0.00273**
Cadmium	7440-43-9	0.0122	U	0.0632
Chromium	**7440-47-3**	**2.13**		**1.89**
Cobalt	**7440-48-4**	**0.265**		**0.0372**
Copper	**7440-50-8**	**40.2**		**2.24**
Lead	**7439-92-1**	**0.477**		**0.183**
Manganese	**7439-96-5**	**8.66**		**1.61**
Molybdenum	**7439-98-7**	**2.40**		**0.306**
Nickel	**7440-02-0**	**1.18**		**0.556**
Selenium	**7782-49-2**	**0.183**		**0.00764**
Thallium	**7440-28-0**	**8.34E-4**		**5.02E-4**
Vanadium	**7440-62-2**	**1.72**		**0.0451**
Zinc	7440-66-6	10.3	U	65.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120724-HM
Matrix: Air
Lab ID: 4121638-11
Sample Volume: 2115.55 m³
Filter ID:
Sampled: 12/07/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 03:28

Comments: Q9552289 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.210**		**0.00721**
Barium	**7440-39-3**	**5.00**	QB-01	**0.823**
Beryllium	**7440-41-7**	**0.0119**		**0.00246**
Cadmium	7440-43-9	0.00982	U	0.0570
Chromium	**7440-47-3**	**2.21**		**1.70**
Cobalt	**7440-48-4**	**0.316**		**0.0335**
Copper	**7440-50-8**	**36.3**		**2.02**
Lead	**7439-92-1**	**0.746**		**0.165**
Manganese	**7439-96-5**	**10.7**		**1.45**
Molybdenum	**7439-98-7**	**1.90**		**0.276**
Nickel	**7440-02-0**	**1.21**		**0.501**
Selenium	**7782-49-2**	**0.184**		**0.00689**
Thallium	**7440-28-0**	**9.06E-4**		**4.53E-4**
Vanadium	**7440-62-2**	**1.86**		**0.0407**
Zinc	7440-66-6	16.2	U	59.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120724-HM
Matrix: Air
Lab ID: 4121638-12
Sample Volume: 1935.262 m³
Filter ID:
Sampled: 12/07/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 03:44

Comments: Q9552287 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0499**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.238**		**0.00788**
Barium	**7440-39-3**	**2.96**	QB-01	**0.900**
Beryllium	**7440-41-7**	**0.0172**		**0.00269**
Cadmium	7440-43-9	0.00962	U	0.0623
Chromium	**7440-47-3**	**2.40**		**1.86**
Cobalt	**7440-48-4**	**0.309**		**0.0367**
Copper	**7440-50-8**	**60.4**		**2.21**
Lead	**7439-92-1**	**0.275**		**0.180**
Manganese	**7439-96-5**	**9.11**		**1.59**
Molybdenum	**7439-98-7**	**3.06**		**0.302**
Nickel	**7440-02-0**	**1.19**		**0.548**
Selenium	**7782-49-2**	**0.172**		**0.00753**
Thallium	**7440-28-0**	**8.36E-4**		**4.95E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0445**
Zinc	7440-66-6	6.64	U	64.6

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120724-HM
Matrix: Air
Lab ID: 4121638-13
Sample Volume: 1813.937 m³
Filter ID:
Sampled: 12/07/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 03:59

Comments: Q9552285 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0705**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.472**		**0.00840**
Barium	**7440-39-3**	**6.50**	QB-01	**0.960**
Beryllium	**7440-41-7**	**0.0376**		**0.00287**
Cadmium	7440-43-9	0.0189	U	0.0665
Chromium	**7440-47-3**	**5.37**		**1.98**
Cobalt	**7440-48-4**	**0.917**		**0.0391**
Copper	**7440-50-8**	**23.6**		**2.36**
Lead	**7439-92-1**	**0.794**		**0.192**
Manganese	**7439-96-5**	**33.4**		**1.70**
Molybdenum	**7439-98-7**	**1.40**		**0.322**
Nickel	**7440-02-0**	**2.39**		**0.585**
Selenium	**7782-49-2**	**0.250**		**0.00804**
Thallium	**7440-28-0**	**0.00182**		**5.28E-4**
Vanadium	**7440-62-2**	**3.27**		**0.0474**
Zinc	7440-66-6	12.4	U	68.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120824-HM
Matrix: Air
Lab ID: 4121638-14
Sample Volume: 1966.391 m³
Filter ID:
Sampled: 12/08/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 04:13

Comments: Q9552284 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0548**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.162**		**0.00775**
Barium	**7440-39-3**	**2.75**	QB-01	**0.885**
Beryllium	**7440-41-7**	**0.00595**		**0.00265**
Cadmium	7440-43-9	0.0342	U	0.0613
Chromium	**7440-47-3**	**2.72**		**1.83**
Cobalt	**7440-48-4**	**0.197**		**0.0361**
Copper	**7440-50-8**	**39.3**		**2.18**
Lead	**7439-92-1**	**0.387**		**0.177**
Manganese	**7439-96-5**	**5.93**		**1.56**
Molybdenum	**7439-98-7**	**2.27**		**0.297**
Nickel	**7440-02-0**	**1.41**		**0.539**
Selenium	**7782-49-2**	**0.148**		**0.00741**
Thallium	**7440-28-0**	**5.92E-4**		**4.87E-4**
Vanadium	**7440-62-2**	**0.822**		**0.0438**
Zinc	7440-66-6	8.49	U	63.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120824-HM
Matrix: Air
Lab ID: 4121638-15
Sample Volume: 2081.146 m³
Filter ID:
Sampled: 12/08/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 04:27

Comments: Q9552282 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.281**		**0.00733**
Barium	**7440-39-3**	**6.04**	QB-01	**0.837**
Beryllium	**7440-41-7**	**0.0143**		**0.00250**
Cadmium	7440-43-9	0.0125	U	0.0579
Chromium	**7440-47-3**	**2.49**		**1.73**
Cobalt	**7440-48-4**	**0.417**		**0.0341**
Copper	**7440-50-8**	**41.1**		**2.06**
Lead	**7439-92-1**	**0.864**		**0.167**
Manganese	**7439-96-5**	**14.6**		**1.48**
Molybdenum	**7439-98-7**	**1.88**		**0.281**
Nickel	**7440-02-0**	**1.31**		**0.510**
Selenium	**7782-49-2**	**0.178**		**0.00700**
Thallium	**7440-28-0**	**8.80E-4**		**4.60E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0414**
Zinc	7440-66-6	14.6	U	60.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120824-HM
Matrix: Air
Lab ID: 4121638-16
Sample Volume: 1906.629 m³
Filter ID:
Sampled: 12/08/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 04:41

Comments: Q9552280 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0317	SL, U	0.0329
Arsenic	**7440-38-2**	**0.127**		**0.00800**
Barium	**7440-39-3**	**2.32**	QB-01	**0.913**
Beryllium	**7440-41-7**	**0.0120**		**0.00273**
Cadmium	7440-43-9	0.00627	U	0.0632
Chromium	**7440-47-3**	**2.19**		**1.89**
Cobalt	**7440-48-4**	**0.229**		**0.0372**
Copper	**7440-50-8**	**68.9**		**2.24**
Lead	**7439-92-1**	**0.196**		**0.183**
Manganese	**7439-96-5**	**5.94**		**1.61**
Molybdenum	**7439-98-7**	**3.27**		**0.306**
Nickel	**7440-02-0**	**0.921**		**0.556**
Selenium	**7782-49-2**	**0.159**		**0.00765**
Thallium	**7440-28-0**	**5.78E-4**		**5.03E-4**
Vanadium	**7440-62-2**	**0.834**		**0.0451**
Zinc	7440-66-6	8.96	U	65.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120824-HM
Matrix: Air
Lab ID: 4121638-17
Sample Volume: 1596.433 m³
Filter ID:
Sampled: 12/08/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 04:55

Comments: Q9552277 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0676**	SL	**0.0393**
Arsenic	**7440-38-2**	**0.412**		**0.00955**
Barium	**7440-39-3**	**5.58**	QB-01	**1.09**
Beryllium	**7440-41-7**	**0.0331**		**0.00326**
Cadmium	7440-43-9	0.0223	U	0.0755
Chromium	**7440-47-3**	**4.61**		**2.25**
Cobalt	**7440-48-4**	**0.861**		**0.0444**
Copper	**7440-50-8**	**19.8**		**2.68**
Lead	**7439-92-1**	**0.828**		**0.218**
Manganese	**7439-96-5**	**28.3**		**1.93**
Molybdenum	**7439-98-7**	**1.26**		**0.366**
Nickel	**7440-02-0**	**2.26**		**0.664**
Selenium	**7782-49-2**	**0.243**		**0.00913**
Thallium	**7440-28-0**	**0.00142**		**6.00E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0539**
Zinc	7440-66-6	10.5	U	78.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-120824-HM
Matrix: Air
Lab ID: 4121638-18
Sample Volume: 1966.391 m³
Filter ID:
Sampled: 12/08/24 00:00
Received: 12/16/24 10:25
Analysis Date: 12/18/24 05:10

Comments: Q9552276 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0112	SL, U	0.0319
Arsenic	7440-38-2	0.00690	U	0.00775
Barium	7440-39-3	0.802	QB-01, U	0.885
Beryllium	7440-41-7	7.00E-4	U	0.00265
Cadmium	7440-43-9	0.00215	U	0.0613
Chromium	7440-47-3	1.65	U	1.83
Cobalt	7440-48-4	0.0272	U	0.0361
Copper	7440-50-8	0.420	U	2.18
Lead	7439-92-1	0.0426	U	0.177
Manganese	7439-96-5	0.247	U	1.56
Molybdenum	7439-98-7	0.252	U	0.297
Nickel	7440-02-0	0.523	U	0.539
Selenium	7782-49-2	0.00477	U	0.00741
Thallium	7440-28-0	1.72E-5	U	4.87E-4
Vanadium	7440-62-2	0.0320	U	0.0438
Zinc	7440-66-6	2.68	U	63.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-120924-HM
Matrix: Air
Lab ID: 4121638-19
Sample Volume: 1997.529 m³
Filter ID:
Sampled: 12/09/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 05:24

Comments: Q8504491 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0919**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.152**		**0.00763**
Barium	**7440-39-3**	**3.58**	QB-01	**0.872**
Beryllium	**7440-41-7**	**0.00762**		**0.00261**
Cadmium	7440-43-9	0.0101	U	0.0604
Chromium	**7440-47-3**	**2.23**		**1.80**
Cobalt	**7440-48-4**	**0.254**		**0.0355**
Copper	**7440-50-8**	**34.4**		**2.14**
Lead	**7439-92-1**	**0.350**		**0.174**
Manganese	**7439-96-5**	**7.25**		**1.54**
Molybdenum	**7439-98-7**	**2.12**		**0.292**
Nickel	**7440-02-0**	**1.13**		**0.531**
Selenium	**7782-49-2**	**0.235**		**0.00730**
Thallium	**7440-28-0**	**0.00118**		**4.80E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0431**
Zinc	7440-66-6	12.3	U	62.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-120924-HM
Matrix: Air
Lab ID: 4121638-20
Sample Volume: 2012.586 m³
Filter ID:
Sampled: 12/09/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 05:38

Comments: Q8504490 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.214**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.306**		**0.00757**
Barium	**7440-39-3**	**7.50**	QB-01	**0.865**
Beryllium	**7440-41-7**	**0.0171**		**0.00259**
Cadmium	7440-43-9	0.0115	U	0.0599
Chromium	**7440-47-3**	**3.35**		**1.79**
Cobalt	**7440-48-4**	**0.586**		**0.0352**
Copper	**7440-50-8**	**45.3**		**2.13**
Lead	**7439-92-1**	**1.03**		**0.173**
Manganese	**7439-96-5**	**17.3**		**1.53**
Molybdenum	**7439-98-7**	**2.16**		**0.290**
Nickel	**7440-02-0**	**1.85**		**0.527**
Selenium	**7782-49-2**	**0.285**		**0.00724**
Thallium	**7440-28-0**	**0.00159**		**4.76E-4**
Vanadium	**7440-62-2**	**2.22**		**0.0428**
Zinc	7440-66-6	18.2	U	62.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-120924-HM
Matrix: Air
Lab ID: 4121638-21
Sample Volume: 1920.445 m³
Filter ID:
Sampled: 12/09/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/17/24 21:27

Comments: Q8504489 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0572**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.128**		**0.00794**
Barium	**7440-39-3**	**2.69**	QB-01	**0.907**
Beryllium	**7440-41-7**	**0.0178**		**0.00271**
Cadmium	7440-43-9	0.0207	U	0.0628
Chromium	**7440-47-3**	**2.85**		**1.87**
Cobalt	**7440-48-4**	**0.305**		**0.0369**
Copper	**7440-50-8**	**73.4**		**2.23**
Lead	**7439-92-1**	**0.365**		**0.181**
Manganese	**7439-96-5**	**7.85**		**1.60**
Molybdenum	**7439-98-7**	**3.43**		**0.304**
Nickel	**7440-02-0**	**1.27**		**0.552**
Selenium	**7782-49-2**	**0.252**		**0.00759**
Thallium	**7440-28-0**	**0.00126**		**4.99E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0448**
Zinc	7440-66-6	9.49	U	65.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-120924-HM
Matrix: Air
Lab ID: 4121638-22
Sample Volume: 1636.473 m³
Filter ID:
Sampled: 12/09/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 07:06

Comments: Q8504488 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0966**	SL	**0.0384**
Arsenic	**7440-38-2**	**0.838**		**0.00932**
Barium	**7440-39-3**	**8.06**	LJ, QB-01, QX	**1.06**
Beryllium	**7440-41-7**	**0.0443**		**0.00318**
Cadmium	7440-43-9	0.0202	U	0.0737
Chromium	**7440-47-3**	**6.39**		**2.20**
Cobalt	**7440-48-4**	**1.36**		**0.0433**
Copper	**7440-50-8**	**22.3**		**2.61**
Lead	**7439-92-1**	**1.10**		**0.213**
Manganese	**7439-96-5**	**45.6**		**1.88**
Molybdenum	**7439-98-7**	**1.35**		**0.357**
Nickel	**7440-02-0**	**3.32**		**0.648**
Selenium	**7782-49-2**	**0.357**		**0.00891**
Thallium	**7440-28-0**	**0.00289**	QB-04	**5.86E-4**
Vanadium	**7440-62-2**	**4.03**		**0.0526**
Zinc	7440-66-6	18.4	U	76.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-120924-HM
Matrix: Air
Lab ID: 4121638-23
Sample Volume: 1997.529 m³
Filter ID:
Sampled: 12/09/24 00:00
Received: 12/16/24 10:25
Analysis Date: 12/18/24 07:24

Comments: Q8504508 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0155	SL, U	0.0314
Arsenic	7440-38-2	0.00304	U	0.00763
Barium	**7440-39-3**	**1.18**	LJ, QB-01, QX	**0.872**
Beryllium	7440-41-7	5.37E-4	U	0.00261
Cadmium	7440-43-9	8.70E-4	U	0.0604
Chromium	7440-47-3	1.08	U	1.80
Cobalt	7440-48-4	0.0132	U	0.0355
Copper	7440-50-8	0.500	U	2.14
Lead	7439-92-1	0.0403	U	0.174
Manganese	7439-96-5	0.222	U	1.54
Molybdenum	7439-98-7	0.170	U	0.292
Nickel	7440-02-0	0.400	U	0.531
Selenium	7782-49-2	0.00373	U	0.00730
Thallium	7440-28-0	1.59E-4	QB-04, U	4.80E-4
Vanadium	7440-62-2	0.0230	U	0.0431
Zinc	7440-66-6	2.34	U	62.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121024-HM
Matrix: Air
Lab ID: 4121638-24
Sample Volume: 2000.873 m³
Filter ID:
Sampled: 12/10/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 07:38

Comments: Q8504506 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.338**		**0.00762**
Barium	**7440-39-3**	**6.69**	LJ, QB-01, QX	**0.870**
Beryllium	**7440-41-7**	**0.0180**		**0.00260**
Cadmium	7440-43-9	0.0209	U	0.0603
Chromium	**7440-47-3**	**3.78**		**1.80**
Cobalt	**7440-48-4**	**0.670**		**0.0355**
Copper	**7440-50-8**	**38.9**		**2.14**
Lead	**7439-92-1**	**0.696**		**0.174**
Manganese	**7439-96-5**	**18.4**		**1.54**
Molybdenum	**7439-98-7**	**2.07**		**0.292**
Nickel	**7440-02-0**	**2.15**		**0.530**
Selenium	**7782-49-2**	**0.226**		**0.00729**
Thallium	**7440-28-0**	**0.00176**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**2.09**		**0.0430**
Zinc	7440-66-6	16.2	U	62.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121024-HM
Matrix: Air
Lab ID: 4121638-25
Sample Volume: 2092.461 m³
Filter ID:
Sampled: 12/10/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 07:53

Comments: Q8504504 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.424**		**0.00729**
Barium	**7440-39-3**	**8.50**	LJ, QB-01, QX	**0.832**
Beryllium	**7440-41-7**	**0.0268**		**0.00249**
Cadmium	7440-43-9	0.0433	U	0.0576
Chromium	**7440-47-3**	**4.42**		**1.72**
Cobalt	**7440-48-4**	**0.862**		**0.0339**
Copper	**7440-50-8**	**44.2**		**2.04**
Lead	**7439-92-1**	**1.44**		**0.166**
Manganese	**7439-96-5**	**24.6**		**1.47**
Molybdenum	**7439-98-7**	**1.58**		**0.279**
Nickel	**7440-02-0**	**2.56**		**0.507**
Selenium	**7782-49-2**	**0.260**		**0.00697**
Thallium	**7440-28-0**	**0.00181**	QB-04	**4.58E-4**
Vanadium	**7440-62-2**	**2.84**		**0.0411**
Zinc	7440-66-6	21.4	U	59.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121024-HM
Matrix: Air
Lab ID: 4121638-26
Sample Volume: 1930.1 m³
Filter ID:
Sampled: 12/10/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 08:08

Comments: Q8504503 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0727**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.213**		**0.00790**
Barium	**7440-39-3**	**4.69**	LJ, QB-01, QX	**0.902**
Beryllium	**7440-41-7**	**0.0380**		**0.00270**
Cadmium	7440-43-9	0.0119	U	0.0625
Chromium	**7440-47-3**	**3.93**		**1.86**
Cobalt	**7440-48-4**	**0.634**		**0.0368**
Copper	**7440-50-8**	**60.6**		**2.22**
Lead	**7439-92-1**	**0.394**		**0.180**
Manganese	**7439-96-5**	**15.0**		**1.59**
Molybdenum	**7439-98-7**	**3.04**		**0.303**
Nickel	**7440-02-0**	**2.02**		**0.550**
Selenium	**7782-49-2**	**0.228**		**0.00755**
Thallium	**7440-28-0**	**0.00160**	QB-04	**4.97E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0446**
Zinc	7440-66-6	9.74	U	64.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121024-HM
Matrix: Air
Lab ID: 4121638-27
Sample Volume: 1579.979 m³
Filter ID:
Sampled: 12/10/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 08:24

Comments: Q8504500 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0397**
Arsenic	**7440-38-2**	**1.21**		**0.00965**
Barium	**7440-39-3**	**12.0**	LJ, QB-01, QX	**1.10**
Beryllium	**7440-41-7**	**0.0665**		**0.00330**
Cadmium	7440-43-9	0.0334	U	0.0763
Chromium	**7440-47-3**	**8.27**		**2.28**
Cobalt	**7440-48-4**	**1.91**		**0.0449**
Copper	**7440-50-8**	**24.5**		**2.71**
Lead	**7439-92-1**	**1.37**		**0.220**
Manganese	**7439-96-5**	**67.3**		**1.95**
Molybdenum	**7439-98-7**	**1.44**		**0.370**
Nickel	**7440-02-0**	**4.40**		**0.671**
Selenium	**7782-49-2**	**0.397**		**0.00923**
Thallium	**7440-28-0**	**0.00345**	QB-04	**6.07E-4**
Vanadium	**7440-62-2**	**5.20**		**0.0545**
Zinc	7440-66-6	32.4	U	79.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-121024-HM
Matrix: Air
Lab ID: 4121638-28
Sample Volume: 2000.873 m³
Filter ID:
Sampled: 12/10/24 00:00
Received: 12/16/24 10:25
Analysis Date: 12/18/24 08:58

Comments: Q8504497 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0162	SL, U	0.0314
Arsenic	**7440-38-2**	**0.00805**	FB-01	**0.00762**
Barium	**7440-39-3**	**1.93**	FB-01, LJ, QB-01, QX	**0.870**
Beryllium	7440-41-7	6.12E-4	U	0.00260
Cadmium	7440-43-9	0.00142	U	0.0603
Chromium	7440-47-3	1.12	U	1.80
Cobalt	7440-48-4	0.0188	U	0.0355
Copper	7440-50-8	1.12	U	2.14
Lead	7439-92-1	0.0515	U	0.174
Manganese	7439-96-5	0.347	U	1.54
Molybdenum	7439-98-7	0.242	U	0.292
Nickel	**7440-02-0**	**0.542**	FB-01	**0.530**
Selenium	7782-49-2	0.00681	U	0.00729
Thallium	7440-28-0	8.24E-5	QB-04, U	4.79E-4
Vanadium	7440-62-2	0.0383	U	0.0430
Zinc	7440-66-6	3.84	U	62.4

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121124-HM
Matrix: Air
Lab ID: 4121638-29
Sample Volume: 1985.823 m³
Filter ID:
Sampled: 12/11/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 09:12

Comments: Q8504499 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.183**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.696**		**0.00768**
Barium	**7440-39-3**	**13.2**	LJ, QB-01, QX	**0.877**
Beryllium	**7440-41-7**	**0.0432**		**0.00262**
Cadmium	7440-43-9	0.0526	U	0.0607
Chromium	**7440-47-3**	**8.26**		**1.81**
Cobalt	**7440-48-4**	**1.80**		**0.0357**
Copper	**7440-50-8**	**41.9**		**2.15**
Lead	**7439-92-1**	**1.80**		**0.175**
Manganese	**7439-96-5**	**48.2**		**1.55**
Molybdenum	**7439-98-7**	**2.17**		**0.294**
Nickel	**7440-02-0**	**4.94**		**0.534**
Selenium	**7782-49-2**	**0.266**		**0.00734**
Thallium	**7440-28-0**	**0.00263**	QB-04	**4.83E-4**
Vanadium	**7440-62-2**	**5.45**		**0.0433**
Zinc	7440-66-6	26.6	U	62.9

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121124-HM
Matrix: Air
Lab ID: 4121638-30
Sample Volume: 2095.679 m³
Filter ID:
Sampled: 12/11/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 09:27

Comments: Q8504494 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.188**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.977**		**0.00727**
Barium	**7440-39-3**	**19.5**	LJ, QB-01, QX	**0.831**
Beryllium	**7440-41-7**	**0.0731**		**0.00248**
Cadmium	**7440-43-9**	**0.206**		**0.0575**
Chromium	**7440-47-3**	**10.8**		**1.72**
Cobalt	**7440-48-4**	**2.48**		**0.0338**
Copper	**7440-50-8**	**55.9**		**2.04**
Lead	**7439-92-1**	**3.65**		**0.166**
Manganese	**7439-96-5**	**67.9**		**1.47**
Molybdenum	**7439-98-7**	**1.68**		**0.279**
Nickel	**7440-02-0**	**6.76**		**0.506**
Selenium	**7782-49-2**	**0.344**		**0.00696**
Thallium	**7440-28-0**	**0.00309**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**8.05**		**0.0411**
Zinc	7440-66-6	46.9	U	59.6

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121124-HM
Matrix: Air
Lab ID: 4121638-31
Sample Volume: 1922.859 m³
Filter ID:
Sampled: 12/11/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 11:41

Comments: Q8504493 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0556**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.274**		**0.00793**
Barium	**7440-39-3**	**6.24**	LJ, QB-01, QX	**0.905**
Beryllium	**7440-41-7**	**0.0637**		**0.00271**
Cadmium	7440-43-9	0.0201	U	0.0627
Chromium	**7440-47-3**	**5.59**		**1.87**
Cobalt	**7440-48-4**	**1.02**		**0.0369**
Copper	**7440-50-8**	**61.8**		**2.23**
Lead	**7439-92-1**	**0.748**		**0.181**
Manganese	**7439-96-5**	**24.9**		**1.60**
Molybdenum	**7439-98-7**	**3.15**	LJ, QX	**0.304**
Nickel	**7440-02-0**	**2.89**		**0.552**
Selenium	**7782-49-2**	**0.230**		**0.00758**
Thallium	**7440-28-0**	**0.00192**	QB-04	**4.98E-4**
Vanadium	**7440-62-2**	**2.70**		**0.0448**
Zinc	7440-66-6	11.9	LJ, QX, U	65.0

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121124-HM
Matrix: Air
Lab ID: 4121638-32
Sample Volume: 1323.743 m³
Filter ID:
Sampled: 12/11/24 23:59
Received: 12/16/24 10:25
Analysis Date: 12/18/24 11:59

Comments: Q8504492 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0474**
Arsenic	**7440-38-2**	**1.73**		**0.0115**
Barium	**7440-39-3**	**17.4**	LJ, QB-01, QX	**1.32**
Beryllium	**7440-41-7**	**0.107**		**0.00393**
Cadmium	7440-43-9	0.0895	U	0.0911
Chromium	**7440-47-3**	**14.5**		**2.72**
Cobalt	**7440-48-4**	**3.23**		**0.0536**
Copper	**7440-50-8**	**24.7**		**3.23**
Lead	**7439-92-1**	**2.33**		**0.263**
Manganese	**7439-96-5**	**104**		**2.32**
Molybdenum	**7439-98-7**	**1.28**	LJ, QX	**0.441**
Nickel	**7440-02-0**	**7.36**		**0.801**
Selenium	**7782-49-2**	**0.487**		**0.0110**
Thallium	**7440-28-0**	**0.00526**	QB-04	**7.24E-4**
Vanadium	**7440-62-2**	**8.28**		**0.0650**
Zinc	7440-66-6	36.7	LJ, QX, U	94.4

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Blank (2412046-CCB1)				Prepared & Analyzed: 12/17/24						
Antimony	0.707		ng/l							
Arsenic	-0.526		ng/l							U
Barium	0.00926		ng/l							
Beryllium	-0.512		ng/l							U
Cadmium	0.146		ng/l							
Chromium	3.47		ng/l							
Cobalt	0.244		ng/l							
Copper	19.1		ng/l							
Lead	2.78		ng/l							
Manganese	3.69		ng/l							
Molybdenum	24.2		ng/l							
Nickel	-1.61		ng/l							U
Selenium	7.21		ng/l							
Thallium	1.10		ng/l							
Vanadium	46.2		ng/l							
Zinc	-42.3		ng/l							U
Calibration Blank (2412046-CCB2)				Prepared & Analyzed: 12/17/24						
Antimony	0.550		ng/l							
Arsenic	0.906		ng/l							
Barium	1.65		ng/l							
Beryllium	-0.827		ng/l							U
Cadmium	0.115		ng/l							
Chromium	2.87		ng/l							
Cobalt	0.217		ng/l							
Copper	9.60		ng/l							
Lead	1.91		ng/l							
Manganese	3.14		ng/l							
Molybdenum	5.93		ng/l							
Nickel	-0.775		ng/l							U
Selenium	6.48		ng/l							
Thallium	1.11		ng/l							
Vanadium	39.8		ng/l							
Zinc	-45.0		ng/l							U
Calibration Blank (2412046-CCB3)				Prepared & Analyzed: 12/17/24						
Antimony	0.661		ng/l							
Arsenic	1.28		ng/l							
Barium	2.07		ng/l							
Beryllium	-1.05		ng/l							U

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Blank (2412046-CCB3) Contin				Prepared & Analyzed: 12/17/24						
Cadmium	0.147		ng/l							
Chromium	3.65		ng/l							
Cobalt	0.535		ng/l							
Copper	19.1		ng/l							
Lead	3.12		ng/l							
Manganese	5.27		ng/l							
Molybdenum	5.49		ng/l							
Nickel	-0.223		ng/l							U
Selenium	15.0		ng/l							
Thallium	1.05		ng/l							
Vanadium	7.04		ng/l							
Zinc	-46.3		ng/l							U
Calibration Blank (2412046-CCB4)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	0.395		ng/l							
Arsenic	0.148		ng/l							
Barium	0.151		ng/l							
Beryllium	-1.12		ng/l							U
Cadmium	0.120		ng/l							
Chromium	3.25		ng/l							
Cobalt	0.342		ng/l							
Copper	13.9		ng/l							
Lead	2.40		ng/l							
Manganese	3.85		ng/l							
Molybdenum	6.48		ng/l							
Nickel	0.592		ng/l							
Selenium	19.6		ng/l							
Thallium	0.966		ng/l							
Vanadium	-22.9		ng/l							U
Zinc	-59.5		ng/l							U
Calibration Blank (2412046-CCB5)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	1.26		ng/l							
Arsenic	-0.0522		ng/l							U
Barium	2.57		ng/l							
Beryllium	-1.24		ng/l							U
Cadmium	0.300		ng/l							
Chromium	3.57		ng/l							
Cobalt	0.296		ng/l							
Copper	23.3		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Blank (2412046-CCB5) Contin				Prepared: 12/17/24 Analyzed: 12/18/24						
Lead	3.27		ng/l							
Manganese	6.44		ng/l							
Molybdenum	8.27		ng/l							
Nickel	2.73		ng/l							
Selenium	9.33		ng/l							
Thallium	1.33		ng/l							
Vanadium	-30.6		ng/l							U
Zinc	-37.7		ng/l							U
Calibration Blank (2412046-CCB6)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	1.38		ng/l							
Arsenic	-1.47		ng/l							U
Barium	3.72		ng/l							
Beryllium	-1.13		ng/l							U
Cadmium	0.223		ng/l							
Chromium	3.89		ng/l							
Cobalt	0.316		ng/l							
Copper	30.8		ng/l							
Lead	4.95		ng/l							
Manganese	7.68		ng/l							
Molybdenum	12.1		ng/l							
Nickel	0.125		ng/l							
Selenium	0.604		ng/l							
Thallium	1.78		ng/l							QB-04
Vanadium	-40.0		ng/l							U
Zinc	-36.2		ng/l							U
Calibration Blank (2412046-CCB7)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	1.34		ng/l							
Arsenic	-1.10		ng/l							U
Barium	3.74		ng/l							
Beryllium	-1.17		ng/l							U
Cadmium	0.332		ng/l							
Chromium	4.61		ng/l							
Cobalt	0.600		ng/l							
Copper	31.9		ng/l							
Lead	4.53		ng/l							
Manganese	8.30		ng/l							
Molybdenum	9.79		ng/l							
Nickel	1.16		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Blank (2412046-CCB7) Contin				Prepared: 12/17/24 Analyzed: 12/18/24						
Selenium	8.65		ng/l							
Thallium	1.77		ng/l							QB-04
Vanadium	-36.2		ng/l							U
Zinc	-34.0		ng/l							U
Calibration Check (2412046-CCV1)				Prepared & Analyzed: 12/17/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	538000		ng/l	500000		108	90-110			
Calibration Check (2412046-CCV2)				Prepared & Analyzed: 12/17/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4770		ng/l	5000.0		95.4	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	541000		ng/l	500000		108	90-110			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
SUBMITTED: 12/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Check (2412046-CCV3)				Prepared & Analyzed: 12/17/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	539000		ng/l	500000		108	90-110			
Calibration Check (2412046-CCV4)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	21100		ng/l	20000		106	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	207000		ng/l	200000		104	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	52200		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	494		ng/l	500.00		98.7	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	548000		ng/l	500000		110	90-110			
Calibration Check (2412046-CCV5)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Check (2412046-CCV5) Contin				Prepared: 12/17/24 Analyzed: 12/18/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	552000		ng/l	500000		110	90-110			
Calibration Check (2412046-CCV6)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	224000		ng/l	200000		112	90-110			LJ, QX
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	54800		ng/l	50000		110	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	549000		ng/l	500000		110	90-110			
Calibration Check (2412046-CCV7)				Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	21300		ng/l	20000		107	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	232000		ng/l	200000		116	90-110			LJ, QX
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	21800		ng/l	20000		109	90-110			
Chromium	258000		ng/l	240000		108	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Calibration Check (2412046-CCV7) Contin					Prepared: 12/17/24 Analyzed: 12/18/24					
Lead	211000		ng/l	200000		105	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	55700		ng/l	50000		111	90-110			LJ, QX
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	21200		ng/l	20000		106	90-110			
Zinc	562000		ng/l	500000		112	90-110			LJ, QX
High Cal Check (2412046-HCV1)					Prepared & Analyzed: 12/17/24					
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	400000		ng/l	400000		99.9	95-105			
Beryllium	9830		ng/l	10000		98.3	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	99400		ng/l	100000		99.4	95-105			
Copper	3.96E6		ng/l	4.0000E6		99.1	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	996000		ng/l	1.0000E6		99.6	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	238000		ng/l	240000		99.1	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	989000		ng/l	1.0000E6		98.9	95-105			
Initial Cal Blank (2412046-ICB1)					Prepared & Analyzed: 12/17/24					
Antimony	0.770		ng/l							
Arsenic	-0.230		ng/l							U
Barium	-0.298		ng/l							U
Beryllium	-0.716		ng/l							U
Cadmium	-0.00366		ng/l							U
Chromium	3.12		ng/l							
Cobalt	0.103		ng/l							
Copper	12.7		ng/l							
Lead	5.13		ng/l							
Manganese	4.81		ng/l							
Molybdenum	10.8		ng/l							
Nickel	-0.784		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Initial Cal Blank (2412046-ICB1) Continu				Prepared & Analyzed: 12/17/24						
Selenium	7.29		ng/l							
Thallium	0.907		ng/l							
Vanadium	90.2		ng/l							
Zinc	-52.6		ng/l							U
Initial Cal Check (2412046-ICV1)				Prepared & Analyzed: 12/17/24						
Antimony	19500		ng/l	20000		97.6	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	47800		ng/l	50000		95.6	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	483000		ng/l	500000		96.7	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Interference Check A (2412046-IFA1)				Prepared & Analyzed: 12/17/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	316000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412046 - B4L1708										
Interference Check B (2412046-IFB1)				Prepared & Analyzed: 12/17/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	200000		ng/l	200000		99.8	80-120			
Beryllium	4380		ng/l	5000.0		87.6	80-120			
Cadmium	20000		ng/l	20000		100	80-120			
Chromium	234000		ng/l	240000		97.5	80-120			
Cobalt	50600		ng/l	50000		101	80-120			
Copper	1.94E6		ng/l	2.0000E6		97.2	80-120			
Lead	209000		ng/l	200000		104	80-120			
Manganese	509000		ng/l	500000		102	80-120			
Molybdenum	376000		ng/l	350000		107	80-120			
Nickel	119000		ng/l	120000		98.8	80-120			
Selenium	19100		ng/l	20000		95.5	80-120			
Thallium	524		ng/l	500.00		105	80-120			
Vanadium	19300		ng/l	20000		96.6	80-120			
Zinc	495000		ng/l	500000		99.0	80-120			
Batch B4L1708 - ICP-MS Extraction										
Blank (B4L1708-BLK1)				Prepared & Analyzed: 12/17/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4L1708-BS1)				Prepared & Analyzed: 12/17/24						
Antimony	0.770	0.0386	ng/m³ Air	1.3829		55.7	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.7	80-120			
Barium	28.7	1.07	ng/m³ Air	27.658		104	80-120			QB-01

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
LCS (B4L1708-BS1) Continued					Prepared & Analyzed: 12/17/24					
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.8	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.0	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.24	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.142	5.89E-4	ng/m³ Air	0.13829		102	80-120			
Vanadium	2.79	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	96.5	76.8	ng/m³ Air	82.975		116	80-120			
LCS (B4L1708-BS2)					Prepared & Analyzed: 12/17/24					
Antimony	0.758	0.0386	ng/m³ Air	1.3829		54.8	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		97.9	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		103	80-120			QB-01
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.9	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.60	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.54	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.69	0.00896	ng/m³ Air	2.7658		97.4	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.78	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	94.8	76.8	ng/m³ Air	82.975		114	80-120			
Duplicate (B4L1708-DUP1)		**Source: 4121638-02**			Prepared & Analyzed: 12/17/24					
Antimony	0.239	0.0293	ng/m³ Air		0.234			2.25	10	SL
Arsenic	0.304	0.00711	ng/m³ Air		0.320			5.06	10	
Barium	7.09	0.812	ng/m³ Air		7.22			1.71	10	QB-01
Beryllium	0.0188	0.00243	ng/m³ Air		0.0193			2.74	10	
Cadmium	ND	0.0563	ng/m³ Air		ND				10	U
Chromium	2.85	1.68	ng/m³ Air		3.94			32.3	10	
Cobalt	0.542	0.0331	ng/m³ Air		0.564			3.97	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Duplicate (B4L1708-DUP1) Continued			**Source: 4121638-02**		Prepared & Analyzed: 12/17/24					
Copper	56.5	2.00	ng/m³ Air		56.0			0.892	10	
Lead	1.10	0.162	ng/m³ Air		1.17			6.22	10	
Manganese	17.7	1.43	ng/m³ Air		18.2			2.39	10	
Molybdenum	2.82	0.273	ng/m³ Air		2.85			0.979	10	
Nickel	1.68	0.495	ng/m³ Air		1.85			9.89	10	
Selenium	0.202	0.00680	ng/m³ Air		0.213			5.25	10	
Thallium	0.00173	4.47E-4	ng/m³ Air		0.00180			3.86	10	
Vanadium	2.01	0.0402	ng/m³ Air		2.05			1.79	10	
Zinc	ND	58.3	ng/m³ Air		ND				10	U
Duplicate (B4L1708-DUP2)			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Antimony	0.0519	0.0327	ng/m³ Air		0.0572			9.74	10	SL
Arsenic	0.124	0.00794	ng/m³ Air		0.128			3.31	10	
Barium	2.71	0.907	ng/m³ Air		2.69			0.591	10	QB-01
Beryllium	0.0174	0.00271	ng/m³ Air		0.0178			2.09	10	
Cadmium	ND	0.0628	ng/m³ Air		ND				10	U
Chromium	2.90	1.87	ng/m³ Air		2.85			1.45	10	
Cobalt	0.297	0.0369	ng/m³ Air		0.305			2.51	10	
Copper	71.4	2.23	ng/m³ Air		73.4			2.76	10	
Lead	0.244	0.181	ng/m³ Air		0.365			39.7	10	
Manganese	7.51	1.60	ng/m³ Air		7.85			4.40	10	
Molybdenum	3.41	0.304	ng/m³ Air		3.43			0.564	10	
Nickel	1.23	0.552	ng/m³ Air		1.27			3.33	10	
Selenium	0.248	0.00759	ng/m³ Air		0.252			1.57	10	
Thallium	0.00121	4.99E-4	ng/m³ Air		0.00126			3.94	10	
Vanadium	1.09	0.0448	ng/m³ Air		1.10			1.34	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	U
Duplicate (B4L1708-DUP3)			**Source: 4121638-10**		Prepared: 12/17/24 Analyzed: 12/18/24					
Antimony	0.0856	0.0329	ng/m³ Air		0.0857			0.185	10	SL
Arsenic	0.176	0.00799	ng/m³ Air		0.182			3.56	10	
Barium	3.93	0.913	ng/m³ Air		3.99			1.54	10	QB-01
Beryllium	0.00882	0.00273	ng/m³ Air		0.00881			0.117	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	2.11	1.89	ng/m³ Air		2.13			1.04	10	
Cobalt	0.263	0.0372	ng/m³ Air		0.265			0.772	10	
Copper	39.5	2.24	ng/m³ Air		40.2			1.71	10	
Lead	0.474	0.183	ng/m³ Air		0.477			0.654	10	
Manganese	8.58	1.61	ng/m³ Air		8.66			0.941	10	
Molybdenum	2.38	0.306	ng/m³ Air		2.40			1.17	10	

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FILE #: 4205.00.003.001
REPORTED: 12/26/24 10:37
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Duplicate (B4L1708-DUP3) Continued		**Source: 4121638-10**		Prepared: 12/17/24 Analyzed: 12/18/24						
Nickel	1.18	0.556	ng/m³ Air		1.18			0.771	10	
Selenium	0.176	0.00764	ng/m³ Air		0.183			3.82	10	
Thallium	8.24E-4	5.02E-4	ng/m³ Air		8.34E-4			1.25	10	
Vanadium	1.71	0.0451	ng/m³ Air		1.72			0.702	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Duplicate (B4L1708-DUP4)		**Source: 4121638-27**		Prepared: 12/17/24 Analyzed: 12/18/24						
Antimony	0.111	0.0397	ng/m³ Air		0.113			2.16	10	SL
Arsenic	1.21	0.00965	ng/m³ Air		1.21			0.139	10	
Barium	11.9	1.10	ng/m³ Air		12.0			0.667	10	LJ, QB-01, QX
Beryllium	0.0676	0.00330	ng/m³ Air		0.0665			1.71	10	
Cadmium	ND	0.0763	ng/m³ Air		ND				10	U
Chromium	8.24	2.28	ng/m³ Air		8.27			0.395	10	
Cobalt	1.91	0.0449	ng/m³ Air		1.91			0.0202	10	
Copper	24.5	2.71	ng/m³ Air		24.5			0.0612	10	
Lead	1.37	0.220	ng/m³ Air		1.37			0.0148	10	
Manganese	66.9	1.95	ng/m³ Air		67.3			0.532	10	
Molybdenum	1.44	0.370	ng/m³ Air		1.44			0.576	10	
Nickel	4.39	0.671	ng/m³ Air		4.40			0.357	10	
Selenium	0.400	0.00923	ng/m³ Air		0.397			0.739	10	
Thallium	0.00357	6.07E-4	ng/m³ Air		0.00345			3.47	10	QB-04
Vanadium	5.19	0.0545	ng/m³ Air		5.20			0.131	10	
Zinc	ND	79.1	ng/m³ Air		ND				10	U
Matrix Spike (B4L1708-MS1)		**Source: 4121638-02**		Prepared & Analyzed: 12/17/24						
Antimony	0.737	0.0293	ng/m³ Air	1.0498	0.234	47.9	80-120			SL
Arsenic	2.33	0.00711	ng/m³ Air	2.0996	0.320	95.7	80-120			
Barium	28.2	0.812	ng/m³ Air	20.996	7.22	100	80-120			QB-01
Beryllium	1.04	0.00243	ng/m³ Air	1.0498	0.0193	97.5	80-120			
Cadmium	1.08	0.0563	ng/m³ Air	1.0498	ND	103	80-120			
Chromium	13.6	1.68	ng/m³ Air	10.498	3.94	91.8	80-120			
Cobalt	1.58	0.0331	ng/m³ Air	1.0498	0.564	97.0	80-120			
Copper	79.6	2.00	ng/m³ Air	20.996	56.0	112	80-120			
Lead	11.8	0.162	ng/m³ Air	10.498	1.17	101	80-120			
Manganese	24.6	1.43	ng/m³ Air	6.2989	18.2	102	80-120			
Molybdenum	3.98	0.273	ng/m³ Air	1.0498	2.85	108	80-120			
Nickel	3.66	0.495	ng/m³ Air	2.0996	1.85	85.8	80-120			
Selenium	2.22	0.00680	ng/m³ Air	2.0996	0.213	95.4	80-120			
Thallium	0.104	4.47E-4	ng/m³ Air	0.10498	0.00180	97.8	80-120			
Vanadium	4.10	0.0402	ng/m³ Air	2.0996	2.05	97.8	80-120			

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Matrix Spike (B4L1708-MS1) Continued Source: 4121638-02 Prepared & Analyzed: 12/17/24										
Zinc	89.2	58.3	ng/m³ Air	62.989	ND	142	80-120			
Matrix Spike (B4L1708-MS2) Source: 4121638-21 Prepared & Analyzed: 12/17/24										
Antimony	0.652	0.0327	ng/m³ Air	1.1716	0.0572	50.8	80-120			SL
Arsenic	2.40	0.00794	ng/m³ Air	2.3432	0.128	97.1	80-120			
Barium	25.8	0.907	ng/m³ Air	23.432	2.69	98.4	80-120			QB-01
Beryllium	1.15	0.00271	ng/m³ Air	1.1716	0.0178	96.5	80-120			
Cadmium	1.21	0.0628	ng/m³ Air	1.1716	ND	103	80-120			
Chromium	14.8	1.87	ng/m³ Air	11.716	2.85	102	80-120			
Cobalt	1.43	0.0369	ng/m³ Air	1.1716	0.305	96.2	80-120			
Copper	96.5	2.23	ng/m³ Air	23.432	73.4	98.8	80-120			
Lead	12.0	0.181	ng/m³ Air	11.716	0.365	99.3	80-120			
Manganese	14.6	1.60	ng/m³ Air	7.0296	7.85	96.3	80-120			
Molybdenum	4.57	0.304	ng/m³ Air	1.1716	3.43	96.9	80-120			
Nickel	3.52	0.552	ng/m³ Air	2.3432	1.27	95.6	80-120			
Selenium	2.49	0.00759	ng/m³ Air	2.3432	0.252	95.5	80-120			
Thallium	0.116	4.99E-4	ng/m³ Air	0.11716	0.00126	98.0	80-120			
Vanadium	3.38	0.0448	ng/m³ Air	2.3432	1.10	97.2	80-120			
Zinc	83.1	65.1	ng/m³ Air	70.296	ND	118	80-120			
Matrix Spike Dup (B4L1708-MSD1) Source: 4121638-02 Prepared & Analyzed: 12/17/24										
Antimony	0.735	0.0293	ng/m³ Air	1.0498	0.234	47.7	80-120	0.293	20	SL
Arsenic	2.35	0.00711	ng/m³ Air	2.0996	0.320	96.9	80-120	1.03	20	
Barium	28.2	0.812	ng/m³ Air	20.996	7.22	99.9	80-120	0.157	20	QB-01
Beryllium	1.06	0.00243	ng/m³ Air	1.0498	0.0193	98.7	80-120	1.14	20	
Cadmium	1.09	0.0563	ng/m³ Air	1.0498	ND	104	80-120	1.06	20	
Chromium	14.1	1.68	ng/m³ Air	10.498	3.94	96.3	80-120	3.39	20	
Cobalt	1.61	0.0331	ng/m³ Air	1.0498	0.564	100	80-120	1.99	20	
Copper	83.4	2.00	ng/m³ Air	20.996	56.0	131	80-120	4.68	20	QM-07
Lead	11.9	0.162	ng/m³ Air	10.498	1.17	102	80-120	0.730	20	
Manganese	24.8	1.43	ng/m³ Air	6.2989	18.2	105	80-120	0.790	20	
Molybdenum	4.16	0.273	ng/m³ Air	1.0498	2.85	125	80-120	4.40	20	QM-07
Nickel	3.87	0.495	ng/m³ Air	2.0996	1.85	96.2	80-120	5.81	20	
Selenium	2.26	0.00680	ng/m³ Air	2.0996	0.213	97.6	80-120	2.03	20	
Thallium	0.105	4.47E-4	ng/m³ Air	0.10498	0.00180	98.3	80-120	0.536	20	
Vanadium	4.15	0.0402	ng/m³ Air	2.0996	2.05	99.8	80-120	1.01	20	
Zinc	90.1	58.3	ng/m³ Air	62.989	ND	143	80-120	0.910	20	
Matrix Spike Dup (B4L1708-MSD2) Source: 4121638-21 Prepared & Analyzed: 12/17/24										
Antimony	0.684	0.0327	ng/m³ Air	1.1716	0.0572	53.5	80-120	4.69	20	SL
Arsenic	2.42	0.00794	ng/m³ Air	2.3432	0.128	98.0	80-120	0.871	20	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Matrix Spike Dup (B4L1708-MSD2) Contir			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Barium	26.3	0.907	ng/m³ Air	23.432	2.69	101	80-120	2.16	20	QB-01
Beryllium	1.16	0.00271	ng/m³ Air	1.1716	0.0178	97.3	80-120	0.717	20	
Cadmium	1.23	0.0628	ng/m³ Air	1.1716	ND	105	80-120	1.92	20	
Chromium	15.0	1.87	ng/m³ Air	11.716	2.85	103	80-120	0.962	20	
Cobalt	1.46	0.0369	ng/m³ Air	1.1716	0.305	98.4	80-120	1.79	20	
Copper	95.4	2.23	ng/m³ Air	23.432	73.4	93.9	80-120	1.18	20	
Lead	12.3	0.181	ng/m³ Air	11.716	0.365	102	80-120	2.54	20	
Manganese	14.5	1.60	ng/m³ Air	7.0296	7.85	95.1	80-120	0.590	20	
Molybdenum	4.58	0.304	ng/m³ Air	1.1716	3.43	98.3	80-120	0.350	20	
Nickel	3.58	0.552	ng/m³ Air	2.3432	1.27	98.6	80-120	1.95	20	
Selenium	2.59	0.00759	ng/m³ Air	2.3432	0.252	99.8	80-120	4.01	20	
Thallium	0.119	4.99E-4	ng/m³ Air	0.11716	0.00126	101	80-120	2.79	20	
Vanadium	3.37	0.0448	ng/m³ Air	2.3432	1.10	97.0	80-120	0.144	20	
Zinc	83.7	65.1	ng/m³ Air	70.296	ND	119	80-120	0.738	20	
Post Spike (B4L1708-PS1)			**Source: 4121638-02**		Prepared & Analyzed: 12/17/24					
Antimony	0.446	0.0293	ng/m³ Air	0.20996	0.234	101	75-125			SL
Arsenic	1.33	0.00711	ng/m³ Air	1.0498	0.320	96.3	75-125			
Barium	9.19	0.812	ng/m³ Air	2.0996	7.22	94.0	75-125			QB-01
Beryllium	0.231	0.00243	ng/m³ Air	0.20996	0.0193	101	75-125			
Cadmium	0.124	0.0563	ng/m³ Air	0.10498	ND	118	75-125			
Chromium	4.99	1.68	ng/m³ Air	1.0498	3.94	99.4	75-125			
Cobalt	0.775	0.0331	ng/m³ Air	0.20996	0.564	100	75-125			
Copper	67.6	2.00	ng/m³ Air	10.498	56.0	110	75-125			
Lead	22.8	0.162	ng/m³ Air	20.996	1.17	103	75-125			
Manganese	20.3	1.43	ng/m³ Air	2.0996	18.2	102	75-125			
Molybdenum	3.94	0.273	ng/m³ Air	1.0498	2.85	104	75-125			
Nickel	3.97	0.495	ng/m³ Air	2.0996	1.85	101	75-125			
Selenium	1.24	0.00680	ng/m³ Air	1.0498	0.213	97.7	75-125			
Thallium	0.0541	4.47E-4	ng/m³ Air	5.2491E-2	0.00180	99.7	75-125			
Vanadium	3.08	0.0402	ng/m³ Air	1.0498	2.05	98.2	75-125			
Zinc	ND	58.3	ng/m³ Air	20.996	ND		75-125			U
Post Spike (B4L1708-PS2)			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Antimony	0.290	0.0327	ng/m³ Air	0.23432	0.0572	99.4	75-125			SL
Arsenic	1.25	0.00794	ng/m³ Air	1.1716	0.128	95.5	75-125			
Barium	4.96	0.907	ng/m³ Air	2.3432	2.69	96.8	75-125			QB-01
Beryllium	0.248	0.00271	ng/m³ Air	0.23432	0.0178	98.4	75-125			
Cadmium	0.141	0.0628	ng/m³ Air	0.11716	ND	120	75-125			
Chromium	4.02	1.87	ng/m³ Air	1.1716	2.85	99.4	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Post Spike (B4L1708-PS2) Continued			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Cobalt	0.530	0.0369	ng/m³ Air	0.23432	0.305	95.9	75-125			
Copper	86.3	2.23	ng/m³ Air	11.716	73.4	110	75-125			
Lead	24.1	0.181	ng/m³ Air	23.432	0.365	101	75-125			
Manganese	10.2	1.60	ng/m³ Air	2.3432	7.85	99.7	75-125			
Molybdenum	4.55	0.304	ng/m³ Air	1.1716	3.43	95.4	75-125			
Nickel	3.59	0.552	ng/m³ Air	2.3432	1.27	98.6	75-125			
Selenium	1.38	0.00759	ng/m³ Air	1.1716	0.252	96.3	75-125			
Thallium	0.0586	4.99E-4	ng/m³ Air	5.8580E-2	0.00126	97.9	75-125			
Vanadium	2.25	0.0448	ng/m³ Air	1.1716	1.10	98.6	75-125			
Zinc	ND	65.1	ng/m³ Air	23.432	ND		75-125			U
Dilution Check (B4L1708-SRL1)			**Source: 4121638-02**		Prepared & Analyzed: 12/17/24					
Antimony	0.231	0.147	ng/m³ Air		0.234			1.54	10	SL
Arsenic	0.320	0.0356	ng/m³ Air		0.320			0.0475	10	
Barium	7.20	4.06	ng/m³ Air		7.22			0.201	10	QB-01
Beryllium	0.0186	0.0121	ng/m³ Air		0.0193			3.59	10	
Cadmium	ND	0.281	ng/m³ Air		ND				10	U
Chromium	ND	8.39	ng/m³ Air		ND				10	U
Cobalt	0.582	0.165	ng/m³ Air		0.564			3.20	10	
Copper	59.8	9.98	ng/m³ Air		56.0			6.43	10	
Lead	1.14	0.812	ng/m³ Air		1.17			2.75	10	
Manganese	18.5	7.17	ng/m³ Air		18.2			1.99	10	
Molybdenum	2.91	1.36	ng/m³ Air		2.85			1.99	10	
Nickel	ND	2.47	ng/m³ Air		ND				10	U
Selenium	0.242	0.0340	ng/m³ Air		0.213			12.7	10	SRD-01
Thallium	0.00361	0.00224	ng/m³ Air		ND			67.0	10	
Vanadium	2.13	0.201	ng/m³ Air		2.05			3.62	10	
Zinc	ND	292	ng/m³ Air		ND				10	U
Dilution Check (B4L1708-SRL2)			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Antimony	ND	0.164	ng/m³ Air		ND				10	SL, U
Arsenic	0.126	0.0397	ng/m³ Air		0.128			1.42	10	
Barium	ND	4.53	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0177	0.0136	ng/m³ Air		0.0178			0.635	10	
Cadmium	ND	0.314	ng/m³ Air		ND				10	U
Chromium	ND	9.36	ng/m³ Air		ND				10	U
Cobalt	0.311	0.185	ng/m³ Air		0.305			1.82	10	
Copper	77.2	11.1	ng/m³ Air		73.4			5.07	10	
Lead	ND	0.907	ng/m³ Air		ND				10	U
Manganese	8.03	8.01	ng/m³ Air		ND			2.26	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L1708 - ICP-MS Extraction										
Dilution Check (B4L1708-SRL2) Continue			**Source: 4121638-21**		Prepared & Analyzed: 12/17/24					
Molybdenum	3.43	1.52	ng/m³ Air		3.43			0.0588	10	
Nickel	ND	2.76	ng/m³ Air		ND				10	U
Selenium	0.268	0.0380	ng/m³ Air		0.252			6.15	10	
Thallium	0.00281	0.00250	ng/m³ Air		ND			75.9	10	
Vanadium	1.18	0.224	ng/m³ Air		1.10			7.42	10	
Zinc	ND	325	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/30/2024 and Shanna Vasser 01/03/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 12/05/2024 – 12/11/2024
Report No: 4121638

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for copper and molybdenum in MFL-FB01-120624-HM; for barium in MFL-LB01-120924-HM; and for arsenic, barium, and nickel in MFL-FB01-121024-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

December 12 through December 18, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from December 12 through December 18, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from December 12 through December 18 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at the following stations as described below:
    - Air monitoring was interrupted at Opukea Townhomes (AM-05) for one hour on December 12, resulting in the collection of 23 hours of PM_{10} data
    - On December 17 air monitoring was interrupted at WW Pump Station #4 (AM-02) for one hour, resulting in the collection of 23 hours of PM_{10} data

- Because of Equipment maintenance, the air monitoring period was interrupted at Lahaina Intermediate School (AM-03) for 1 hour on December 12, resulting in the collection of 23 hours of PM_{10} data
- Because of a power failure, the air monitoring period was interrupted at Opukea Townhomes (AM-05) for three hours on December 18, resulting in the collection of 21 hours of PM_{10} data

The equipment fault on December 12 and 17 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 23-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m³ screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.0 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

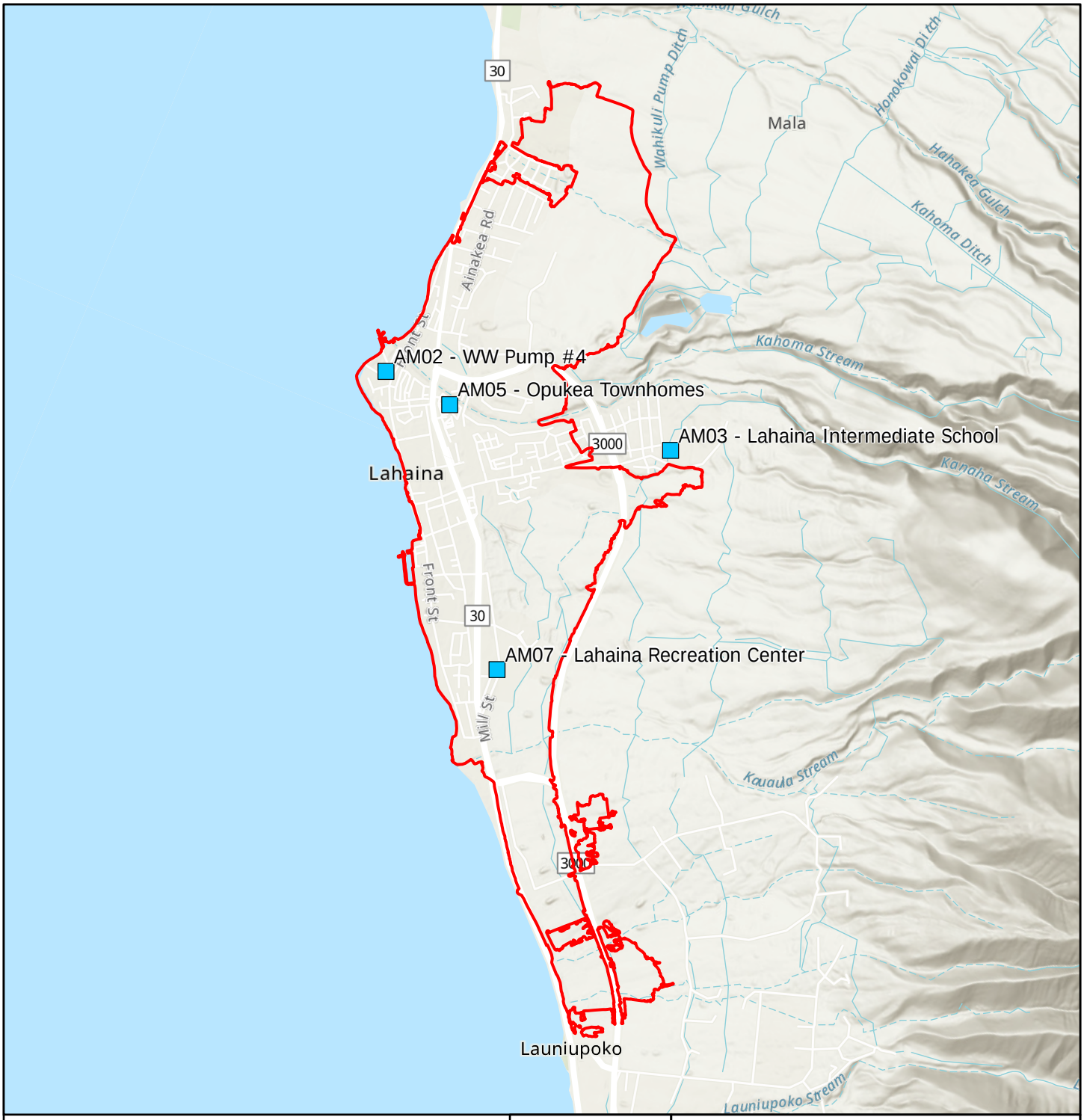
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
December 12 through December 18, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
12/12/2024	Opukea Townhomes (AM-05)	9.5*
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.9**
	Lahaina Recreation Center (AM-07)	14
12/13/2024	Opukea Townhomes (AM-05)	9.9
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	9.1
	Lahaina Recreation Center (AM-07)	11
12/14/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	8.7
	Lahaina Recreation Center (AM-07)	8.5
12/15/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	4.7
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	6.5
12/16/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Recreation Center (AM-07)	8.0
12/17/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	9.9*
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Recreation Center (AM-07)	10
12/18/2024	Opukea Townhomes (AM-05)	13***
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Recreation Center (AM-07)	12

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault
** Data provided are from a reduced (23-hr) TWA calculation because of equipment maintenance
***Data provided are from a reduced (21-hr) TWA calculation because of power failure

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 12 through December 18, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
12/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000171	0.00139	0.0169	0.0000792	0.0000897	0.00900	0.00249	0.0451	0.00210	0.0831	0.00215	0.00503	0.000463	0.00000615	0.00790	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000145	0.000492	0.00875	0.0000319	ND	0.00572	0.00118	0.0417	0.00138	0.0311	0.00165	0.00317	0.000291	0.00000173	0.00364	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000651	0.000308	0.00610	0.0000519	ND	0.00531	0.000925	0.0625	0.000600	0.0217	0.00293	0.00258	0.000285	0.00000137	0.00252	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000181	0.00181	0.0145	0.0000840	0.000107	0.0108	0.00279	0.0277	0.00199	0.0887	0.00115	0.00555	0.000516	0.00000430	0.00721	ND
12/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000136	0.000250	0.00553	0.0000140	ND	0.00328	0.000465	0.0464	0.000605	0.0134	0.00228	0.00146	0.000280	0.00000127	0.00148	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000194	0.000366	0.00787	0.0000206	ND	0.00357	0.000741	0.0395	0.000926	0.0197	0.00158	0.00214	0.000305	0.00000128	0.00238	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000735	0.000188	0.00407	0.0000260	ND	0.00316	0.000442	0.0874	0.000414	0.0109	0.00344	0.00153	0.000282	0.00000109	0.00128	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000142	0.000626	0.00684	0.0000319	ND	0.00446	0.000967	0.0252	0.00265	0.0305	0.00158	0.00247	0.000365	0.00000198	0.00275	ND
12/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.000103	0.000208	0.00441	0.00000891	ND	0.00239	0.000283	0.0647	0.000603	0.00875	0.00377	0.00109	0.000292	0.00000126	0.00105	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000209	0.000354	0.00559	0.0000108	ND	0.00212	0.000312	0.0285	0.000936	0.00983	0.00179	0.00109	0.000289	0.00000131	0.00117	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000486	0.000111	0.00235	0.0000102	ND	0.00234	0.000198	0.0405	0.000306	0.00511	0.00231	0.00150	0.000210	0.000000938	0.000563	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000135	0.000381	0.00566	0.0000267	ND	0.00378	0.000652	0.0217	0.000529	0.0224	0.00132	0.00200	0.000348	0.00000172	0.00182	ND
12/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000175	0.00460	0.00000846	ND	0.00263	0.000290	0.0547	0.000523	0.00899	0.00332	0.00143	0.000223	0.000000946	0.00108	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000212	0.000224	0.00561	0.0000116	ND	0.00200	0.000316	0.0346	0.000815	0.0102	0.00255	0.00114	0.000217	0.000000874	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000388	0.0000980	0.00227	0.0000101	ND	ND	0.000213	0.0353	0.000239	0.00588	0.00218	0.000983	0.000189	0.000000641	0.000743	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000108	0.000595	0.00822	0.0000617	ND	0.00517	0.00116	0.0198	0.000963	0.0443	0.00110	0.00282	0.000380	0.00000217	0.00317	ND
12/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.000123	0.000310	0.00563	0.0000143	ND	0.00269	0.000470	0.0685	0.000964	0.0144	0.00493	0.00152	0.000221	0.00000120	0.00165	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000298	0.000439	0.0105	0.0000241	ND	0.00409	0.000863	0.0307	0.00138	0.0231	0.00190	0.00261	0.000246	0.00000125	0.00291	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000482	0.000148	0.00391	0.0000201	ND	0.00290	0.000409	0.0461	0.000503	0.0101	0.00243	0.00156	0.000183	0.000000858	0.00133	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000145	0.000528	0.00772	0.0000451	ND	0.00561	0.00130	0.0275	0.000642	0.0412	0.00158	0.00295	0.000338	0.00000191	0.00352	ND
12/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.000174	0.000238	0.00671	0.0000171	ND	0.00419	0.000644	0.0520	0.000858	0.0177	0.00421	0.00215	0.000233	0.00000123	0.00238	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000298	0.000369	0.0114	0.0000259	ND	0.00478	0.00105	0.0399	0.000838	0.0259	0.00254	0.00311	0.000274	0.00000143	0.00349	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000637	0.000200	0.00477	0.0000234	ND	0.00358	0.000642	0.0500	0.000302	0.0149	0.00270	0.00215	0.000193	0.000000934	0.00196	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000209	0.000977	0.0102	0.0000503	ND	0.00773	0.00177	0.0318	0.000895	0.0583	0.00174	0.00409	0.000382	0.00000261	0.00461	0.0961
12/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000161	0.000297	0.00663	0.0000184	ND	0.00295	0.000554	0.0718	0.000725	0.0182	0.00484	0.00174	0.000246	0.00000117	0.00205	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000176	0.000281	0.00590	0.0000137	ND	0.00228	0.000396	0.0391	0.00100	0.0126	0.00225	0.00147	0.000227	0.000000957	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000118	0.000181	0.00432	0.0000237	ND	0.00324	0.000579	0.0422	0.000309	0.0134	0.00224	0.00199	0.000243	0.000000944	0.00167	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000176	0.000685	0.0113	0.0000678	ND	0.00699	0.00183	0.0291	0.00214	0.0657	0.00169	0.00423	0.000427	0.00000308	0.00514	0.187
95% Upper Confidence Limit[2]		NA	0.000180	0.000570	0.00847	0.0000390	NA	0.00509	0.00114	0.0491	0.00120	0.0356	0.00281	0.00278	0.000320	0.00000200	0.00334	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 12, through December 18, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/12/2024	AM-02	WW Pump Station #4	1.0	S	80	61	762.3
12/12/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	57	752.9
12/12/2024	AM-05	Opukea Townhomes	1.2	SE	80	57	761.8
12/12/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	60	761.5
12/13/2024	AM-02	WW Pump Station #4	0.7	SSE	79	71	762.8
12/13/2024	AM-03	Lahaina Intermediate School	0.9	ESE	78	67	753.3
12/13/2024	AM-05	Opukea Townhomes	1.0	SE	80	65	762.2
12/13/2024	AM-07	Lahaina Recreational Center	1.2	SE	78	71	762.0
12/14/2024	AM-02	WW Pump Station #4	0.9	SSE	78	66	762.9
12/14/2024	AM-03	Lahaina Intermediate School	1.0	ESE	77	63	753.4
12/14/2024	AM-05	Opukea Townhomes	1.1	SE	79	61	762.3
12/14/2024	AM-07	Lahaina Recreational Center	1.4	SE	76	66	762.2
12/15/2024	AM-02	WW Pump Station #4	0.8	SSE	77	70	762.0
12/15/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	67	752.5
12/15/2024	AM-05	Opukea Townhomes	1.2	ESE	78	64	761.4
12/15/2024	AM-07	Lahaina Recreational Center	1.5	SE	76	70	761.2
12/16/2024	AM-02	WW Pump Station #4	0.7	SSE	76	69	761.4
12/16/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	64	751.9
12/16/2024	AM-05	Opukea Townhomes	0.9	ESE	78	63	760.8
12/16/2024	AM-07	Lahaina Recreational Center	1.2	SE	75	70	760.6
12/17/2024	AM-02	WW Pump Station #4	0.7	SSW	77	72	761.7
12/17/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	64	752.1
12/17/2024	AM-05	Opukea Townhomes	0.8	ENE	78	65	761.1
12/17/2024	AM-07	Lahaina Recreational Center	1.2	SSE	76	68	760.8
12/18/2024	AM-02	WW Pump Station #4	0.7	SSW	78	73	762.9
12/18/2024	AM-03	Lahaina Intermediate School	1.3	SE	78	65	753.3
12/18/2024	AM-05	Opukea Townhomes	0.8	ESE	78	66	762.3
12/18/2024	AM-07	Lahaina Recreational Center	1.3	SSW	77	70	762.0

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121224-AB**		**Sample Description:**	**DL692807**
EMSL Sample Number:	000004342-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0001 **Customer Sample:** MFL-AM05-121224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H3	None Detected									
B1	D9	None Detected									
B1	B1	None Detected									
B2	G1	None Detected									
B2	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121224-AB**		**Sample Description:**	**DL692797**
EMSL Sample Number:	000004342-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6780.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0002 **Customer Sample:** MFL-AM02-121224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	G5	None Detected									
B5	B7	None Detected									
B6	G8	None Detected									
B6	C10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121224-AB**		**Sample Description:**	**DL692772**
EMSL Sample Number:	000004342-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7094.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0003 **Customer Sample:** MFL-AM03-121224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	C2	None Detected									
C1	E8	None Detected									
C1	G6	None Detected									
C2	I9	None Detected									
C2	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121224-AB**		**Sample Description:**	**DL692767**
EMSL Sample Number:	000004342-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0004 **Customer Sample:** MFL-AM07-121224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	F7	None Detected									
C5	E4	None Detected									
C6	D7	None Detected									
C6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-121224-AB** **Sample Description:** **DL692796**

EMSL Sample Number:	000004342-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0005 **Customer Sample:** MFL-FB01-121224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A6	None Detected									
D1	C8	None Detected									
D1	E10	None Detected									
D1	G7	None Detected									
D1	I5	None Detected									
D2	J9	None Detected									
D2	H5	None Detected									
D2	E7	None Detected									
D2	D2	None Detected									
D2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121324-AB**	**Sample Description:**	**DL692800**
EMSL Sample Number:	000004342-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7240.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0006 **Customer Sample:** MFL-AM05-121324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D10	None Detected									
D5	H7	None Detected									
D6	J2	None Detected									
D6	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121324-AB**		**Sample Description:**	**DL692804**
EMSL Sample Number:	000004342-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6820.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0007 **Customer Sample:** MFL-AM02-121324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H3	None Detected									
E1	D7	None Detected									
E1	C4	None Detected									
E2	C7	None Detected									
E2	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121324-AB**		**Sample Description:**	**DL692794**
EMSL Sample Number:	000004342-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0008 **Customer Sample:** MFL-AM03-121324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	E8	None Detected									
E5	I5	None Detected									
E6	H4	None Detected									
E6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121324-AB**		**Sample Description:**	**DL692802**
EMSL Sample Number:	000004342-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7262.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0009 **Customer Sample:** MFL-AM07-121324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I9	None Detected									
F1	F8	None Detected									
F1	C6	None Detected									
F2	A5	None Detected									
F2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-121324-AB** **Sample Description: DL692764**

EMSL Sample Number:	000004342-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0010 **Customer Sample:** MFL-FB01-121324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A10	None Detected									
F5	C7	None Detected									
F5	E8	None Detected									
F5	G9	None Detected									
F5	I5	None Detected									
F6	J1	None Detected									
F6	H4	None Detected									
F6	F3	None Detected									
F6	D5	None Detected									
F6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121424-AB**		**Sample Description:**	**DL692787**
EMSL Sample Number:	000004342-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0011 **Customer Sample:** MFL-AM05-121424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I5	None Detected									
G1	D5	None Detected									
G1	B7	None Detected									
G2	G6	None Detected									
G2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121424-AB**	**Sample Description:**	**DL692780**
EMSL Sample Number:	000004342-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7035.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0012 **Customer Sample:** MFL-AM02-121424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I7	None Detected									
G5	F8	None Detected									
G5	E1	None Detected									
G6	A9	None Detected									
G6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121424-AB**		**Sample Description:**	**DL692762**
EMSL Sample Number:	000004342-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0013 **Customer Sample:** MFL-AM03-121424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H8	None Detected									
H1	F3	None Detected									
H1	C5	None Detected									
H2	I8	None Detected									
H2	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121424-AB**		**Sample Description:**	**DL692771**
EMSL Sample Number:	000004342-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7040.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0014 **Customer Sample:** MFL-AM07-121424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	H5	None Detected									
H5	F7	None Detected									
H5	D5	None Detected									
H6	A5	None Detected									
H6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-121424-AB**		**Sample Description:**	**DL692778**
EMSL Sample Number:	000004342-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0015 **Customer Sample:** MFL-FB01-121424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A6	None Detected									
I1	C9	None Detected									
I1	E7	None Detected									
I1	G5	None Detected									
I1	I4	None Detected									
I3	A5	None Detected									
I3	C8	None Detected									
I3	E10	None Detected									
I3	G9	None Detected									
I3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121524-AB**		**Sample Description:**	**DL692815**
EMSL Sample Number:	000004342-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0016 **Customer Sample:** MFL-AM05-121524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J5	None Detected									
I5	G8	None Detected									
I5	E8	None Detected									
I5	H6	None Detected									
I5	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121524-AB**		**Sample Description:**	**DL692777**
EMSL Sample Number:	000004342-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6701.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0017 **Customer Sample:** MFL-AM02-121524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A4	None Detected									
J1	D5	None Detected									
J1	G2	None Detected									
J2	I7	None Detected									
J2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121524-AB**	**Sample Description:**	**DL692776**
EMSL Sample Number:	000004342-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7217.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0018 **Customer Sample:** MFL-AM03-121524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I8	None Detected									
J5	E7	None Detected									
J5	C3	None Detected									
J6	B9	None Detected									
J6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04342
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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121524-AB**		**Sample Description:**	**DL692766**
EMSL Sample Number:	000004342-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 04342-001
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 04342-0019 **Customer Sample:** MFL-AM07-121524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I4	None Detected									
K1	G3	None Detected									
K1	F1	None Detected									
K2	A7	None Detected									
K2	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-121524-AB** **Sample Description:** **DL692768**

EMSL Sample Number:	000004342-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004342**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0020 **Customer Sample:** MFL-FB01-121524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A9	None Detected									
K5	C10	None Detected									
K5	E7	None Detected									
K5	G8	None Detected									
K5	I5	None Detected									
K6	A6	None Detected									
K6	C7	None Detected									
K6	E9	None Detected									
K6	G7	None Detected									
K6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04342
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/30/2024
Report Date:	12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004342-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 000004342
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004342-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A10	None Detected									
A1	C8	None Detected									
A1	E7	None Detected									
A1	G4	None Detected									
A1	I6	None Detected									
A2	A5	None Detected									
A2	C2	None Detected									
A2	E1	None Detected									
A2	G4	None Detected									
A2	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-342

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 DEC 23 AM 9:52

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☑ ISO 10312* KP 12-23-24

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

EO 12-28-24

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-121224-AB	DL692807	7,231.527	12/12/24 1103
MFL-AM02-121224-AB	DL692797	6,779.988	12/12/24 1118
MFL-AM03-121224-AB	DL692772	7,094.783	12/12/24 1256
MFL-AM07-121224-AB	DL692767	7,138.346	12/12/24 1317
MFL-FB01-121224-AB	DL692796	0	12/12/24 1200
MFL-AM05-121324-AB	DL692800	7,240.949	12/13/24 1059
MFL-AM02-121324-AB	DL692804	6,820.510	12/13/24 1125
MFL-AM03-121324-AB	DL692794	7,244.492	12/13/24 1256

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20 ✓

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by	Date/Time	Received by	Date/Time
Shaina Epstein	12/16/24 1100	FedEx	12/23/24 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

04342

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ DEC 23 AM 9:52

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-121324-AB	DL692802	7,262.193	12/13/24 1341
MFL-FB01-121324-AB	DL692764	0	12/13/24 1200
MFL-AM05-121424-AB	DL692787	7,129.928	12/14/24 1055
MFL-AM02-121424-AB	DL692780	7,035.699	12/14/24 1112
MFL-AM03-121424-AB	DL692762	7,270.595	12/14/24 1254
MFL-AM07-121424-AB	DL692771	7,040.518	12/14/24 1316
MFL-FB01-121424-AB	DL692778	0	12/14/24 1200
MFL-AM05-121524-AB	DL692815	7,266.789	12/15/24 1056
MFL-AM02-121524-AB	DL692777	6,701.281	12/15/24 1110
MFL-AM03-121524-AB	DL692776	7,217.643	12/15/24 1259
MFL-AM07-121524-AB	DL692766	7,201.872	12/15/24 1319
MFL-FB01-121524-AB	DL692768	0	12/15/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epsl...	Date/Time: 12/16/24 1100	Received by: Fedex	Date/Time: 12/23/24 9:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/02/2025 and Shanna Vasser 01/03/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/12/2024 – 12/15/2024
Report No: 04-342

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121624-AB**		**Sample Description:**	**DL692783**
EMSL Sample Number:	000004343-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7115.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**04-343-00**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 04-343-0001 **Customer Sample:** MFL-AM05-121624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B6	None Detected									
B2	G4	None Detected									
B2	J6	None Detected									
B3	F4	None Detected									
B3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121624-AB**	**Sample Description:**	**DL692784**
EMSL Sample Number:	000004343-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7188.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0002 **Customer Sample:** MFL-AM02-121624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	E2	None Detected									
B5	H5	None Detected									
B6	G7	None Detected									
B6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121624-AB**		**Sample Description:**	**DL692763**
EMSL Sample Number:	000004343-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0003 **Customer Sample:** MFL-AM03-121624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	B7	None Detected									
C2	D10	None Detected									
C2	G8	None Detected									
C4	B7	None Detected									
C4	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121624-AB**		**Sample Description:**	**DL692785**
EMSL Sample Number:	000004343-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0004 **Customer Sample:** MFL-AM07-121624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	D10	None Detected									
C5	G8	None Detected									
C6	B7	None Detected									
C6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-121624-AB**		**Sample Description:**	**DL692774**
EMSL Sample Number:	000004343-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0005 **Customer Sample:** MFL-FB01-121624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I4	None Detected									
D2	G8	None Detected									
D2	E9	None Detected									
D2	D5	None Detected									
D2	A7	None Detected									
D3	B3	None Detected									
D3	D2	None Detected									
D3	F3	None Detected									
D3	H4	None Detected									
D3	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121724-AB**		**Sample Description:**	**DL692775**
EMSL Sample Number:	000004343-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0006 **Customer Sample:** MFL-AM05-121724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	D6	None Detected									
D5	G7	None Detected									
D5	C7	None Detected									
D6	F6	None Detected									
D6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121724-AB**	**Sample Description:**	**DL692770**
EMSL Sample Number:	000004343-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6659.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	9		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0007 **Customer Sample:** MFL-AM02-121724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	D4	None Detected									
E3	F3	None Detected									
E3	I7	None Detected									
E4	E7	None Detected									
E4	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121724-AB**		**Sample Description:**	**DL692769**
EMSL Sample Number:	000004343-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0008 **Customer Sample:** MFL-AM03-121724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	C4	None Detected									
E5	E7	None Detected									
E5	I4	None Detected									
E6	B4	None Detected									
E6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121724-AB**	**Sample Description:**	**DL692779**
EMSL Sample Number:	000004343-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7260.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	10		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0009 **Customer Sample:** MFL-AM07-121724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F3	C7	None Detected									
F3	E5	None Detected									
F3	I8	None Detected									
F4	F8	None Detected									
F4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-121724-AB**		**Sample Description:**	**DL692803**
EMSL Sample Number:	000004343-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0010 **Customer Sample:** MFL-FB01-121724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I5	None Detected									
F5	G7	None Detected									
F5	E9	None Detected									
F5	C6	None Detected									
F5	A7	None Detected									
F6	J7	None Detected									
F6	G5	None Detected									
F6	E3	None Detected									
F6	C4	None Detected									
F6	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-121824-AB**		**Sample Description:**	**DL692810**
EMSL Sample Number:	000004343-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0011 **Customer Sample:** MFL-AM05-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G3	B3	None Detected									
G3	E7	None Detected									
G3	H4	None Detected									
G4	D4	None Detected									
G4	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121824-AB**		**Sample Description:**	**DL692799**
EMSL Sample Number:	000004343-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7103.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0012 **Customer Sample:** MFL-AM02-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	B4	None Detected									
G6	E5	None Detected									
G6	I8	None Detected									
G7	H3	None Detected									
G7	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-121824-AB**	**Sample Description:**	**DL692788**
EMSL Sample Number:	000004343-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7208.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0013 **Customer Sample:** MFL-AM03-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H3	H5	None Detected									
H3	E4	None Detected									
H3	C7	None Detected									
H4	G7	None Detected									
H4	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121824-AB**		**Sample Description:**	**DL692786**
EMSL Sample Number:	000004343-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0014 **Customer Sample:** MFL-AM07-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H7	H7	None Detected									
H7	E5	None Detected									
H7	B3	None Detected									
H8	D5	None Detected									
H8	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-121824-AB**		**Sample Description:**	**DL698361**
EMSL Sample Number:	000004343-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0015 **Customer Sample:** MFL-FB01-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I3	A7	None Detected									
I3	C8	None Detected									
I3	F7	None Detected									
I3	G5	None Detected									
I3	J6	None Detected									
I4	A5	None Detected									
I4	D4	None Detected									
I4	F3	None Detected									
I4	G6	None Detected									
I4	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-121824-AB**	**Sample Description:**	**DL697994**
EMSL Sample Number:	000004343-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0016 **Customer Sample:** MFL-LB01-121824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J5	None Detected									
I5	H2	None Detected									
I5	F4	None Detected									
I5	C3	None Detected									
I5	B6	None Detected									
I6	I5	None Detected									
I6	H4	None Detected									
I6	E6	None Detected									
I6	C5	None Detected									
I6	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04343
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	12/23/2024 09:30 AM
Analysis Date:	12/26/2024
Report Date:	12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004343-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004343**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004343-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	C7	None Detected									
A1	E9	None Detected									
A1	G8	None Detected									
A1	H5	None Detected									
A1	I3	None Detected									
A2	J8	None Detected									
A2	H4	None Detected									
A2	F4	None Detected									
A2	C7	None Detected									
A2	A9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-343

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

RECEIVED
EMSL CINNAMINSON NJ
24 DEC 23 AM 9:52

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: Chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples In Shipment: 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☑ ISO 10312* KP 12-23-24

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☑ 0.45um

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
1	MFL-AM05-121624-AB	DL692783	7,115.667	12/16/24 1056
2	MFL-AM02-121624-AB	DL692784	7,188.418	12/16/24 1112
3	MFL-AM03-121624-AB	DL692763	7,195.525	12/16/24 1255
4	MFL-AM07-121624-AB	DL692785	7,174.589	12/16/24 1315
5	MFL-FB01-121624-AB	DL692774	0	12/16/24 1200
6	MFL-AM05-121724-AB	DL692775	7,200.354	12/17/24 1057
7	MFL-AM02-121724-AB	DL692770	6,659.810	12/17/24 1114
8	MFL-AM03-121724-AB	~~DL692~~ DL692769	7,139.670	12/17/24 1257

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

16 KP

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 12/19/24 1100	Received by: FedEx	Date/Time 12/23/24 9:30
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

04343

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
24 DEC 23
EMSL
CINNAMINSON, NJ

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
9	MFL-AM07-121724-AB	DL692779	7,260.048	12/17/24 1318
10	MFL-FB01-121724-AB	DL692803	0	12/17/24 1200
11	MFL-AM05-121824-AB	DL692810	7,225.103	12/18/24 1057
12	MFL-AM02-121824-AB	DL692799	7,103.534	12/18/24 1111
13	MFL-AM03-121824-AB	DL692788	7,208.095	12/18/24 1258
14	MFL-AM07-121824-AB	DL692786	7,189.167	12/18/24 1317
15	MFL-FB01-121824-AB	DL698361	0	12/18/24 1200
16	MFL-LB01-121824-AB	DL697994	0	12/18/24 1200

Method of Shipment:	Fedex		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 12/19/24 1100	Received by:	Date/Time	12/23/24 9:30A
Relinquished by:		Date/Time:	Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R18 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/02/2024 and Shanna Vasser 01/03/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/16/2024 – 12/18/2024
Report No: 04-343

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

January 02, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/23/24 13:03.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-121224-HM	4122328-01	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM02-121224-HM	4122328-02	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM03-121224-HM	4122328-03	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM07-121224-HM	4122328-04	Air	12/12/24 23:59	12/23/24 13:03
MFL-FB01-121224-HM	4122328-05	Air	12/12/24 00:00	12/23/24 13:03
MFL-AM05-121324-HM	4122328-06	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM02-121324-HM	4122328-07	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM03-121324-HM	4122328-08	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM07-121324-HM/MS/I	4122328-09	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM05-121424-HM	4122328-10	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM02-121424-HM	4122328-11	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM03-121424-HM	4122328-12	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM07-121424-HM	4122328-13	Air	12/14/24 23:59	12/23/24 13:03
MFL-FB01-121424-HM	4122328-14	Air	12/14/24 00:00	12/23/24 13:03
MFL-AM05-121524-HM	4122328-15	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM02-121524-HM	4122328-16	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM03-121524-HM	4122328-17	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM07-121524-HM	4122328-18	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM05-121624-HM	4122328-19	Air	12/16/24 23:59	12/23/24 13:03
MFL-AM02-121624-HM	4122328-20	Air	12/16/24 23:59	12/23/24 13:03
MFL-AM03-121624-HM	4122328-21	Air	12/16/24 23:59	12/23/24 13:03

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-121624-HM	4122328-22	Air	12/16/24 23:59	12/23/24 13:03
MFL-FB01-121624-HM	4122328-23	Air	12/16/24 00:00	12/23/24 13:03
MFL-AM05-121724-HM/MS/I	4122328-24	Air	12/17/24 23:59	12/23/24 13:03
MFL-AM02-121724-HM	4122328-25	Air	12/17/24 23:59	12/23/24 13:03
MFL-AM03-121724-HM	4122328-26	Air	12/17/24 23:59	12/23/24 13:03
MFL-AM07-121724-HM	4122328-27	Air	12/17/24 23:59	12/23/24 13:03
MFL-AM05-121824-HM	4122328-28	Air	12/18/24 23:59	12/23/24 13:03
MFL-AM02-121824-HM	4122328-29	Air	12/18/24 23:59	12/23/24 13:03
MFL-AM03-121824-HM	4122328-30	Air	12/18/24 23:59	12/23/24 13:03
MFL-AM07-121824-HM	4122328-31	Air	12/18/24 23:59	12/23/24 13:03
MFL-FB01-121824-HM	4122328-32	Air	12/18/24 00:00	12/23/24 13:03
MFL-LB01-121824-HM	4122328-33	Air	12/18/24 00:00	12/23/24 13:03

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121224-HM
Matrix: Air
Lab ID: 4122328-01
Sample Volume: 2013.415 m³
Filter ID:
Sampled: 12/12/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/26/24 23:45

Comments: Q8504521 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.171**	SL	**0.0312**
Arsenic	**7440-38-2**	**1.39**		**0.00757**
Barium	**7440-39-3**	**16.9**	QB-01	**0.865**
Beryllium	**7440-41-7**	**0.0792**		**0.00259**
Cadmium	**7440-43-9**	**0.0897**		**0.0599**
Chromium	**7440-47-3**	**9.00**	QB-01	**1.79**
Cobalt	**7440-48-4**	**2.49**		**0.0352**
Copper	**7440-50-8**	**45.1**		**2.13**
Lead	**7439-92-1**	**2.10**		**0.173**
Manganese	**7439-96-5**	**83.1**		**1.53**
Molybdenum	**7439-98-7**	**2.15**	QB-01	**0.290**
Nickel	**7440-02-0**	**5.03**	QB-01	**0.527**
Selenium	**7782-49-2**	**0.463**		**0.00724**
Thallium	**7440-28-0**	**0.00615**		**4.76E-4**
Vanadium	**7440-62-2**	**7.90**		**0.0427**
Zinc	7440-66-6	30.1	U	62.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121224-HM
Matrix: Air
Lab ID: 4122328-02
Sample Volume: 2177.04 m³
Filter ID:
Sampled: 12/12/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 00:04

Comments: Q8504520 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.145**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.492**		**0.00700**
Barium	**7440-39-3**	**8.75**	QB-01	**0.800**
Beryllium	**7440-41-7**	**0.0319**		**0.00239**
Cadmium	7440-43-9	0.0309	U	0.0554
Chromium	**7440-47-3**	**5.72**	QB-01	**1.65**
Cobalt	**7440-48-4**	**1.18**		**0.0326**
Copper	**7440-50-8**	**41.7**		**1.97**
Lead	**7439-92-1**	**1.38**		**0.160**
Manganese	**7439-96-5**	**31.1**		**1.41**
Molybdenum	**7439-98-7**	**1.65**	QB-01	**0.268**
Nickel	**7440-02-0**	**3.17**	QB-01	**0.487**
Selenium	**7782-49-2**	**0.291**		**0.00670**
Thallium	**7440-28-0**	**0.00173**		**4.40E-4**
Vanadium	**7440-62-2**	**3.64**		**0.0395**
Zinc	7440-66-6	20.7	U	57.4

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121224-HM
Matrix: Air
Lab ID: 4122328-03
Sample Volume: 1766.653 m³
Filter ID:
Sampled: 12/12/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 00:42

Comments: Q8504519 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0651**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.308**		**0.00863**
Barium	**7440-39-3**	**6.10**	QB-01	**0.985**
Beryllium	**7440-41-7**	**0.0519**		**0.00295**
Cadmium	7440-43-9	0.0308	U	0.0682
Chromium	**7440-47-3**	**5.31**	QB-01	**2.04**
Cobalt	**7440-48-4**	**0.925**		**0.0402**
Copper	**7440-50-8**	**62.5**		**2.42**
Lead	**7439-92-1**	**0.600**		**0.197**
Manganese	**7439-96-5**	**21.7**		**1.74**
Molybdenum	**7439-98-7**	**2.93**	QB-01	**0.331**
Nickel	**7440-02-0**	**2.58**	QB-01	**0.600**
Selenium	**7782-49-2**	**0.285**		**0.00825**
Thallium	**7440-28-0**	**0.00137**		**5.42E-4**
Vanadium	**7440-62-2**	**2.52**		**0.0487**
Zinc	7440-66-6	12.1	U	70.7

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121224-HM
Matrix: Air
Lab ID: 4122328-04
Sample Volume: 1658.939 m³
Filter ID:
Sampled: 12/12/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 00:59

Comments: Q8504517 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.181**	SL	**0.0379**
Arsenic	**7440-38-2**	**1.81**		**0.00919**
Barium	**7440-39-3**	**14.5**	QB-01	**1.05**
Beryllium	**7440-41-7**	**0.0840**		**0.00314**
Cadmium	**7440-43-9**	**0.107**		**0.0727**
Chromium	**7440-47-3**	**10.8**	QB-01	**2.17**
Cobalt	**7440-48-4**	**2.79**		**0.0428**
Copper	**7440-50-8**	**27.7**		**2.58**
Lead	**7439-92-1**	**1.99**		**0.210**
Manganese	**7439-96-5**	**88.7**		**1.85**
Molybdenum	**7439-98-7**	**1.15**	QB-01	**0.352**
Nickel	**7440-02-0**	**5.55**	QB-01	**0.639**
Selenium	**7782-49-2**	**0.516**		**0.00879**
Thallium	**7440-28-0**	**0.00430**		**5.78E-4**
Vanadium	**7440-62-2**	**7.21**		**0.0519**
Zinc	7440-66-6	28.8	U	75.3

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-121224-HM
Matrix: Air
Lab ID: 4122328-05
Sample Volume: 2013.415 m³
Filter ID:
Sampled: 12/12/24 00:00
Received: 12/23/24 13:03
Analysis Date: 12/27/24 01:17

Comments: Q8504514 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0547**	FB-01, SL	**0.0312**
Arsenic	**7440-38-2**	**0.0154**	FB-01	**0.00757**
Barium	**7440-39-3**	**1.37**	FB-01, QB-01	**0.865**
Beryllium	7440-41-7	0.00142	U	0.00259
Cadmium	7440-43-9	0.00275	U	0.0599
Chromium	7440-47-3	1.19	QB-01, U	1.79
Cobalt	**7440-48-4**	**0.0352**	FB-01	**0.0352**
Copper	**7440-50-8**	**2.35**	FB-01	**2.13**
Lead	7439-92-1	0.145	U	0.173
Manganese	7439-96-5	0.847	U	1.53
Molybdenum	7439-98-7	0.221	QB-01, U	0.290
Nickel	**7440-02-0**	**0.568**	FB-01, QB-01	**0.527**
Selenium	7782-49-2	0.00483	U	0.00724
Thallium	7440-28-0	1.47E-4	U	4.76E-4
Vanadium	**7440-62-2**	**0.0848**	FB-01	**0.0427**
Zinc	7440-66-6	5.54	U	62.1

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121324-HM
Matrix: Air
Lab ID: 4122328-06
Sample Volume: 1942.715 m³
Filter ID:
Sampled: 12/13/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 01:31

Comments: Q8504516 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.250**		**0.00785**
Barium	**7440-39-3**	**5.53**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.0140**		**0.00268**
Cadmium	7440-43-9	0.0143	U	0.0621
Chromium	**7440-47-3**	**3.28**	QB-01	**1.85**
Cobalt	**7440-48-4**	**0.465**		**0.0365**
Copper	**7440-50-8**	**46.4**		**2.20**
Lead	**7439-92-1**	**0.605**		**0.179**
Manganese	**7439-96-5**	**13.4**		**1.58**
Molybdenum	**7439-98-7**	**2.28**	QB-01	**0.301**
Nickel	**7440-02-0**	**1.46**	QB-01	**0.546**
Selenium	**7782-49-2**	**0.280**		**0.00750**
Thallium	**7440-28-0**	**0.00127**		**4.93E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0443**
Zinc	7440-66-6	12.3	U	64.3

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121324-HM
Matrix: Air
Lab ID: 4122328-07
Sample Volume: 2125.832 m³
Filter ID:
Sampled: 12/13/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 01:46

Comments: Q8504515 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.194**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.366**		**0.00717**
Barium	**7440-39-3**	**7.87**	QB-01	**0.819**
Beryllium	**7440-41-7**	**0.0206**		**0.00245**
Cadmium	7440-43-9	0.0161	U	0.0567
Chromium	**7440-47-3**	**3.57**	QB-01	**1.69**
Cobalt	**7440-48-4**	**0.741**		**0.0334**
Copper	**7440-50-8**	**39.5**		**2.01**
Lead	**7439-92-1**	**0.926**		**0.164**
Manganese	**7439-96-5**	**19.7**		**1.45**
Molybdenum	**7439-98-7**	**1.58**	QB-01	**0.275**
Nickel	**7440-02-0**	**2.14**	QB-01	**0.499**
Selenium	**7782-49-2**	**0.305**		**0.00686**
Thallium	**7440-28-0**	**0.00128**		**4.51E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0405**
Zinc	7440-66-6	14.6	U	58.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121324-HM
Matrix: Air
Lab ID: 4122328-08
Sample Volume: 1723.256 m³
Filter ID:
Sampled: 12/13/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 02:01

Comments: Q8504513 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0735**	SL	**0.0364**
Arsenic	**7440-38-2**	**0.188**		**0.00885**
Barium	**7440-39-3**	**4.07**	QB-01	**1.01**
Beryllium	**7440-41-7**	**0.0260**		**0.00302**
Cadmium	7440-43-9	0.0104	U	0.0700
Chromium	**7440-47-3**	**3.16**	QB-01	**2.09**
Cobalt	**7440-48-4**	**0.442**		**0.0412**
Copper	**7440-50-8**	**87.4**		**2.48**
Lead	**7439-92-1**	**0.414**		**0.202**
Manganese	**7439-96-5**	**10.9**		**1.78**
Molybdenum	**7439-98-7**	**3.44**	QB-01	**0.339**
Nickel	**7440-02-0**	**1.53**	QB-01	**0.616**
Selenium	**7782-49-2**	**0.282**		**0.00846**
Thallium	**7440-28-0**	**0.00109**		**5.56E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0499**
Zinc	7440-66-6	9.52	U	72.5

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121324-HM/MS/MS
Matrix: Air
Lab ID: 4122328-09
Sample Volume: 1693.022 m³
Filter ID:
Sampled: 12/13/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/26/24 17:03

Comments: Q8504512 MS/MSD- Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0371**
Arsenic	**7440-38-2**	**0.626**		**0.00900**
Barium	**7440-39-3**	**6.84**	QB-01	**1.03**
Beryllium	**7440-41-7**	**0.0319**		**0.00308**
Cadmium	7440-43-9	0.0178	U	0.0712
Chromium	**7440-47-3**	**4.46**	QB-01	**2.12**
Cobalt	**7440-48-4**	**0.967**		**0.0419**
Copper	**7440-50-8**	**25.2**		**2.53**
Lead	**7439-92-1**	**2.65**	D-F	**0.206**
Manganese	**7439-96-5**	**30.5**		**1.82**
Molybdenum	**7439-98-7**	**1.58**	QB-01	**0.345**
Nickel	**7440-02-0**	**2.47**	QB-01	**0.627**
Selenium	**7782-49-2**	**0.365**		**0.00861**
Thallium	**7440-28-0**	**0.00198**		**5.66E-4**
Vanadium	**7440-62-2**	**2.75**		**0.0508**
Zinc	7440-66-6	15.0	U	73.8

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121424-HM
Matrix: Air
Lab ID: 4122328-10
Sample Volume: 1844.471 m³
Filter ID:
Sampled: 12/14/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 02:15

Comments: Q8504539 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.208**		**0.00827**
Barium	**7440-39-3**	**4.41**	QB-01	**0.944**
Beryllium	**7440-41-7**	**0.00891**		**0.00282**
Cadmium	7440-43-9	0.0505	U	0.0654
Chromium	**7440-47-3**	**2.39**	QB-01	**1.95**
Cobalt	**7440-48-4**	**0.283**		**0.0385**
Copper	**7440-50-8**	**64.7**		**2.32**
Lead	**7439-92-1**	**0.603**		**0.189**
Manganese	**7439-96-5**	**8.75**		**1.67**
Molybdenum	**7439-98-7**	**3.77**	QB-01	**0.317**
Nickel	**7440-02-0**	**1.09**	QB-01	**0.575**
Selenium	**7782-49-2**	**0.292**		**0.00790**
Thallium	**7440-28-0**	**0.00126**		**5.20E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0467**
Zinc	7440-66-6	10.3	U	67.7

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121424-HM
Matrix: Air
Lab ID: 4122328-11
Sample Volume: 2070.827 m³
Filter ID:
Sampled: 12/14/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 03:25

Comments: Q8504537 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.209**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.354**		**0.00736**
Barium	**7440-39-3**	**5.59**	QB-01	**0.841**
Beryllium	**7440-41-7**	**0.0108**		**0.00251**
Cadmium	7440-43-9	0.0135	U	0.0582
Chromium	**7440-47-3**	**2.12**	QB-01	**1.74**
Cobalt	**7440-48-4**	**0.312**		**0.0343**
Copper	**7440-50-8**	**28.5**		**2.07**
Lead	**7439-92-1**	**0.936**		**0.168**
Manganese	**7439-96-5**	**9.83**		**1.48**
Molybdenum	**7439-98-7**	**1.79**	QB-01	**0.282**
Nickel	**7440-02-0**	**1.09**	QB-01	**0.512**
Selenium	**7782-49-2**	**0.289**		**0.00704**
Thallium	**7440-28-0**	**0.00131**		**4.63E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0416**
Zinc	7440-66-6	14.3	U	60.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121424-HM
Matrix: Air
Lab ID: 4122328-12
Sample Volume: 1785.383 m³
Filter ID:
Sampled: 12/14/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 03:41

Comments: Q8504533 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0486**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.111**		**0.00854**
Barium	**7440-39-3**	**2.35**	QB-01	**0.975**
Beryllium	**7440-41-7**	**0.0102**		**0.00292**
Cadmium	7440-43-9	0.0204	U	0.0675
Chromium	**7440-47-3**	**2.34**	QB-01	**2.01**
Cobalt	**7440-48-4**	**0.198**		**0.0397**
Copper	**7440-50-8**	**40.5**		**2.40**
Lead	**7439-92-1**	**0.306**		**0.195**
Manganese	**7439-96-5**	**5.11**		**1.72**
Molybdenum	**7439-98-7**	**2.31**	QB-01	**0.327**
Nickel	**7440-02-0**	**1.50**	QB-01	**0.594**
Selenium	**7782-49-2**	**0.210**		**0.00817**
Thallium	**7440-28-0**	**9.38E-4**		**5.37E-4**
Vanadium	**7440-62-2**	**0.563**		**0.0482**
Zinc	7440-66-6	11.3	U	70.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121424-HM
Matrix: Air
Lab ID: 4122328-13
Sample Volume: 1469.802 m³
Filter ID:
Sampled: 12/14/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 03:55

Comments: Q8504534 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0427**
Arsenic	**7440-38-2**	**0.381**		**0.0104**
Barium	**7440-39-3**	**5.66**	QB-01	**1.18**
Beryllium	**7440-41-7**	**0.0267**		**0.00354**
Cadmium	7440-43-9	0.0154	U	0.0820
Chromium	**7440-47-3**	**3.78**	QB-01	**2.45**
Cobalt	**7440-48-4**	**0.652**		**0.0483**
Copper	**7440-50-8**	**21.7**		**2.91**
Lead	**7439-92-1**	**0.529**		**0.237**
Manganese	**7439-96-5**	**22.4**		**2.09**
Molybdenum	**7439-98-7**	**1.32**	QB-01	**0.397**
Nickel	**7440-02-0**	**2.00**	QB-01	**0.722**
Selenium	**7782-49-2**	**0.348**		**0.00992**
Thallium	**7440-28-0**	**0.00172**		**6.52E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0586**
Zinc	7440-66-6	11.6	U	85.0

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-121424-HM
Matrix: Air
Lab ID: 4122328-14
Sample Volume: 1844.471 m³
Filter ID:
Sampled: 12/14/24 00:00
Received: 12/23/24 13:03
Analysis Date: 12/27/24 04:10

Comments: Q8504527 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0170	SL, U	0.0340
Arsenic	7440-38-2	0.00345	U	0.00827
Barium	**7440-39-3**	**0.983**	FB-01, QB-01	**0.944**
Beryllium	7440-41-7	6.12E-4	U	0.00282
Cadmium	7440-43-9	0.00171	U	0.0654
Chromium	7440-47-3	1.08	QB-01, U	1.95
Cobalt	7440-48-4	0.0120	U	0.0385
Copper	7440-50-8	0.318	U	2.32
Lead	7439-92-1	0.0399	U	0.189
Manganese	7439-96-5	0.234	U	1.67
Molybdenum	7439-98-7	0.167	QB-01, U	0.317
Nickel	7440-02-0	0.421	QB-01, U	0.575
Selenium	7782-49-2	0.00120	U	0.00790
Thallium	7440-28-0	9.26E-5	U	5.20E-4
Vanadium	7440-62-2	0.0177	U	0.0467
Zinc	7440-66-6	2.27	U	67.7

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121524-HM
Matrix: Air
Lab ID: 4122328-15
Sample Volume: 1883.101 m³
Filter ID:
Sampled: 12/15/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 04:23

Comments: Q8504530 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.175**		**0.00810**
Barium	**7440-39-3**	**4.60**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.00846**		**0.00276**
Cadmium	7440-43-9	0.0126	U	0.0640
Chromium	**7440-47-3**	**2.63**	QB-01	**1.91**
Cobalt	**7440-48-4**	**0.290**		**0.0377**
Copper	**7440-50-8**	**54.7**		**2.27**
Lead	**7439-92-1**	**0.523**		**0.185**
Manganese	**7439-96-5**	**8.99**		**1.63**
Molybdenum	**7439-98-7**	**3.32**	QB-01	**0.310**
Nickel	**7440-02-0**	**1.43**	QB-01	**0.563**
Selenium	**7782-49-2**	**0.223**		**0.00774**
Thallium	**7440-28-0**	**9.46E-4**		**5.09E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0457**
Zinc	7440-66-6	13.6	U	66.4

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121524-HM
Matrix: Air
Lab ID: 4122328-16
Sample Volume: 2125.112 m³
Filter ID:
Sampled: 12/15/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 04:38

Comments: Q8504529 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.212**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.224**		**0.00717**
Barium	**7440-39-3**	**5.61**	QB-01	**0.819**
Beryllium	**7440-41-7**	**0.0116**		**0.00245**
Cadmium	7440-43-9	0.00874	U	0.0567
Chromium	**7440-47-3**	**2.00**	QB-01	**1.69**
Cobalt	**7440-48-4**	**0.316**		**0.0334**
Copper	**7440-50-8**	**34.6**		**2.01**
Lead	**7439-92-1**	**0.815**		**0.164**
Manganese	**7439-96-5**	**10.2**		**1.45**
Molybdenum	**7439-98-7**	**2.55**	QB-01	**0.275**
Nickel	**7440-02-0**	**1.14**	QB-01	**0.499**
Selenium	**7782-49-2**	**0.217**		**0.00686**
Thallium	**7440-28-0**	**8.74E-4**		**4.51E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0405**
Zinc	7440-66-6	15.3	U	58.8

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121524-HM
Matrix: Air
Lab ID: 4122328-17
Sample Volume: 1983.89 m³
Filter ID:
Sampled: 12/15/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 04:52

Comments: Q8504526 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0388**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.0980**		**0.00768**
Barium	**7440-39-3**	**2.27**	QB-01	**0.878**
Beryllium	**7440-41-7**	**0.0101**		**0.00262**
Cadmium	7440-43-9	0.00962	U	0.0608
Chromium	7440-47-3	1.76	QB-01, U	1.81
Cobalt	**7440-48-4**	**0.213**		**0.0358**
Copper	**7440-50-8**	**35.3**		**2.16**
Lead	**7439-92-1**	**0.239**		**0.176**
Manganese	**7439-96-5**	**5.88**		**1.55**
Molybdenum	**7439-98-7**	**2.18**	QB-01	**0.294**
Nickel	**7440-02-0**	**0.983**	QB-01	**0.535**
Selenium	**7782-49-2**	**0.189**		**0.00735**
Thallium	**7440-28-0**	**6.41E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**0.743**		**0.0434**
Zinc	7440-66-6	6.00	U	63.0

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121524-HM
Matrix: Air
Lab ID: 4122328-18
Sample Volume: 1510.178 m³
Filter ID:
Sampled: 12/15/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 05:07

Comments: Q8504525 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0416**
Arsenic	**7440-38-2**	**0.595**		**0.0101**
Barium	**7440-39-3**	**8.22**	QB-01	**1.15**
Beryllium	**7440-41-7**	**0.0617**		**0.00345**
Cadmium	7440-43-9	0.0189	U	0.0798
Chromium	**7440-47-3**	**5.17**	QB-01	**2.38**
Cobalt	**7440-48-4**	**1.16**		**0.0470**
Copper	**7440-50-8**	**19.8**		**2.83**
Lead	**7439-92-1**	**0.963**		**0.231**
Manganese	**7439-96-5**	**44.3**		**2.04**
Molybdenum	**7439-98-7**	**1.10**	QB-01	**0.387**
Nickel	**7440-02-0**	**2.82**	QB-01	**0.702**
Selenium	**7782-49-2**	**0.380**		**0.00965**
Thallium	**7440-28-0**	**0.00217**		**6.35E-4**
Vanadium	**7440-62-2**	**3.17**		**0.0570**
Zinc	7440-66-6	13.6	U	82.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121624-HM
Matrix: Air
Lab ID: 4122328-19
Sample Volume: 1823.44 m³
Filter ID:
Sampled: 12/16/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 05:22

Comments: Q8504523 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.123**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.310**		**0.00836**
Barium	**7440-39-3**	**5.63**	QB-01	**0.955**
Beryllium	**7440-41-7**	**0.0143**		**0.00286**
Cadmium	7440-43-9	0.0238	U	0.0661
Chromium	**7440-47-3**	**2.69**	QB-01	**1.97**
Cobalt	**7440-48-4**	**0.470**		**0.0389**
Copper	**7440-50-8**	**68.5**		**2.35**
Lead	**7439-92-1**	**0.964**		**0.191**
Manganese	**7439-96-5**	**14.4**		**1.69**
Molybdenum	**7439-98-7**	**4.93**	QB-01	**0.320**
Nickel	**7440-02-0**	**1.52**	QB-01	**0.582**
Selenium	**7782-49-2**	**0.221**		**0.00799**
Thallium	**7440-28-0**	**0.00120**		**5.26E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0472**
Zinc	7440-66-6	25.2	U	68.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121624-HM
Matrix: Air
Lab ID: 4122328-20
Sample Volume: 2131.341 m³
Filter ID:
Sampled: 12/16/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 05:36

Comments: Q8504550 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.298**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.439**		**0.00715**
Barium	**7440-39-3**	**10.5**	QB-01	**0.817**
Beryllium	**7440-41-7**	**0.0241**		**0.00244**
Cadmium	7440-43-9	0.0183	U	0.0566
Chromium	**7440-47-3**	**4.09**	QB-01	**1.69**
Cobalt	**7440-48-4**	**0.863**		**0.0333**
Copper	**7440-50-8**	**30.7**		**2.01**
Lead	**7439-92-1**	**1.38**		**0.163**
Manganese	**7439-96-5**	**23.1**		**1.44**
Molybdenum	**7439-98-7**	**1.90**	QB-01	**0.274**
Nickel	**7440-02-0**	**2.61**	QB-01	**0.498**
Selenium	**7782-49-2**	**0.246**		**0.00684**
Thallium	**7440-28-0**	**0.00125**		**4.50E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0404**
Zinc	7440-66-6	23.1	U	58.6

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121624-HM **Lab ID:** 4122328-21 **Sampled:** 12/16/24 23:59
Matrix: Air **Sample Volume:** 1973.13 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 06:46

Comments: Q8504549 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0482**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.148**		**0.00773**
Barium	**7440-39-3**	**3.91**	QB-01	**0.882**
Beryllium	**7440-41-7**	**0.0201**		**0.00264**
Cadmium	7440-43-9	0.00909	U	0.0611
Chromium	**7440-47-3**	**2.90**	QB-01	**1.82**
Cobalt	**7440-48-4**	**0.409**		**0.0360**
Copper	**7440-50-8**	**46.1**		**2.17**
Lead	**7439-92-1**	**0.503**		**0.176**
Manganese	**7439-96-5**	**10.1**		**1.56**
Molybdenum	**7439-98-7**	**2.43**	QB-01	**0.296**
Nickel	**7440-02-0**	**1.56**	QB-01	**0.538**
Selenium	**7782-49-2**	**0.183**		**0.00739**
Thallium	**7440-28-0**	**8.58E-4**		**4.86E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0436**
Zinc	7440-66-6	11.7	U	63.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121624-HM
Matrix: Air
Lab ID: 4122328-22
Sample Volume: 1450.009 m³
Filter ID:
Sampled: 12/16/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 07:02

Comments: Q8504547 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.145**	SL	**0.0433**
Arsenic	**7440-38-2**	**0.528**		**0.0105**
Barium	**7440-39-3**	**7.72**	QB-01	**1.20**
Beryllium	**7440-41-7**	**0.0451**		**0.00359**
Cadmium	7440-43-9	0.0195	U	0.0831
Chromium	**7440-47-3**	**5.61**	QB-01	**2.48**
Cobalt	**7440-48-4**	**1.30**		**0.0489**
Copper	**7440-50-8**	**27.5**		**2.95**
Lead	**7439-92-1**	**0.642**		**0.240**
Manganese	**7439-96-5**	**41.2**		**2.12**
Molybdenum	**7439-98-7**	**1.58**	QB-01	**0.403**
Nickel	**7440-02-0**	**2.95**	QB-01	**0.732**
Selenium	**7782-49-2**	**0.338**		**0.0101**
Thallium	**7440-28-0**	**0.00191**		**6.61E-4**
Vanadium	**7440-62-2**	**3.52**		**0.0594**
Zinc	7440-66-6	12.8	U	86.2

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-121624-HM
Matrix: Air
Lab ID: 4122328-23
Sample Volume: 1823.44 m³
Filter ID:
Sampled: 12/16/24 00:00
Received: 12/23/24 13:03
Analysis Date: 12/27/24 07:20

Comments: Q8504543 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	SL, U	0.0344
Arsenic	**7440-38-2**	**0.0210**	FB-01	**0.00836**
Barium	**7440-39-3**	**1.72**	FB-01, QB-01	**0.955**
Beryllium	7440-41-7	6.71E-4	U	0.00286
Cadmium	7440-43-9	0.00109	U	0.0661
Chromium	7440-47-3	1.12	QB-01, U	1.97
Cobalt	7440-48-4	0.0175	U	0.0389
Copper	7440-50-8	0.471	U	2.35
Lead	7439-92-1	0.0450	U	0.191
Manganese	7439-96-5	0.377	U	1.69
Molybdenum	7439-98-7	0.172	QB-01, U	0.320
Nickel	7440-02-0	0.421	QB-01, U	0.582
Selenium	7782-49-2	4.89E-4	U	0.00799
Thallium	7440-28-0	1.42E-4	U	5.26E-4
Vanadium	7440-62-2	0.0329	U	0.0472
Zinc	7440-66-6	3.28	U	68.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121724-HM/MS/MS **Lab ID:** 4122328-24 **Sampled:** 12/17/24 23:59
Matrix: Air **Sample Volume:** 1844.017 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/26/24 21:01

Comments: Q8504546 MS/MSD - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.174**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.238**		**0.00827**
Barium	**7440-39-3**	**6.71**	QB-01	**0.944**
Beryllium	**7440-41-7**	**0.0171**		**0.00282**
Cadmium	7440-43-9	0.0131	U	0.0654
Chromium	**7440-47-3**	**4.19**	QB-01	**1.95**
Cobalt	**7440-48-4**	**0.644**		**0.0385**
Copper	**7440-50-8**	**52.0**	QM-07	**2.32**
Lead	**7439-92-1**	**0.858**		**0.189**
Manganese	**7439-96-5**	**17.7**		**1.67**
Molybdenum	**7439-98-7**	**4.21**	QB-01, QM-07	**0.317**
Nickel	**7440-02-0**	**2.15**	QB-01	**0.575**
Selenium	**7782-49-2**	**0.233**		**0.00791**
Thallium	**7440-28-0**	**0.00123**		**5.20E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0467**
Zinc	7440-66-6	15.9	U	67.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121724-HM
Matrix: Air
Lab ID: 4122328-25
Sample Volume: 2130.451 m³
Filter ID:
Sampled: 12/17/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 07:34

Comments: Q8504545 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.298**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.369**		**0.00716**
Barium	**7440-39-3**	**11.4**	QB-01	**0.817**
Beryllium	**7440-41-7**	**0.0259**		**0.00244**
Cadmium	7440-43-9	0.0133	U	0.0566
Chromium	**7440-47-3**	**4.78**	QB-01	**1.69**
Cobalt	**7440-48-4**	**1.05**		**0.0333**
Copper	**7440-50-8**	**39.9**		**2.01**
Lead	**7439-92-1**	**0.838**		**0.163**
Manganese	**7439-96-5**	**25.9**		**1.44**
Molybdenum	**7439-98-7**	**2.54**	QB-01	**0.274**
Nickel	**7440-02-0**	**3.11**	QB-01	**0.498**
Selenium	**7782-49-2**	**0.274**		**0.00684**
Thallium	**7440-28-0**	**0.00143**		**4.50E-4**
Vanadium	**7440-62-2**	**3.49**		**0.0404**
Zinc	7440-66-6	20.5	U	58.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121724-HM
Matrix: Air
Lab ID: 4122328-26
Sample Volume: 1980.579 m³
Filter ID:
Sampled: 12/17/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 07:52

Comments: Q8504544 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0637**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.200**		**0.00770**
Barium	**7440-39-3**	**4.77**	QB-01	**0.879**
Beryllium	**7440-41-7**	**0.0234**		**0.00263**
Cadmium	7440-43-9	0.00956	U	0.0609
Chromium	**7440-47-3**	**3.58**	QB-01	**1.82**
Cobalt	**7440-48-4**	**0.642**		**0.0358**
Copper	**7440-50-8**	**50.0**		**2.16**
Lead	**7439-92-1**	**0.302**		**0.176**
Manganese	**7439-96-5**	**14.9**		**1.55**
Molybdenum	**7439-98-7**	**2.70**	QB-01	**0.295**
Nickel	**7440-02-0**	**2.15**	QB-01	**0.536**
Selenium	**7782-49-2**	**0.193**		**0.00736**
Thallium	**7440-28-0**	**9.34E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0435**
Zinc	7440-66-6	8.46	U	63.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121724-HM
Matrix: Air
Lab ID: 4122328-27
Sample Volume: 1401.502 m³
Filter ID:
Sampled: 12/17/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 08:06

Comments: Q8504542 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.209**	SL	**0.0448**
Arsenic	**7440-38-2**	**0.977**		**0.0109**
Barium	**7440-39-3**	**10.2**	QB-01	**1.24**
Beryllium	**7440-41-7**	**0.0503**		**0.00371**
Cadmium	7440-43-9	0.0233	U	0.0860
Chromium	**7440-47-3**	**7.73**	QB-01	**2.57**
Cobalt	**7440-48-4**	**1.77**		**0.0506**
Copper	**7440-50-8**	**31.8**		**3.05**
Lead	**7439-92-1**	**0.895**		**0.248**
Manganese	**7439-96-5**	**58.3**		**2.19**
Molybdenum	**7439-98-7**	**1.74**	QB-01	**0.417**
Nickel	**7440-02-0**	**4.09**	QB-01	**0.757**
Selenium	**7782-49-2**	**0.382**		**0.0104**
Thallium	**7440-28-0**	**0.00261**		**6.84E-4**
Vanadium	**7440-62-2**	**4.61**		**0.0614**
Zinc	**7440-66-6**	**96.1**		**89.2**

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121824-HM
Matrix: Air
Lab ID: 4122328-28
Sample Volume: 1817.209 m³
Filter ID:
Sampled: 12/18/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 08:21

Comments: Q8504541 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.161**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.297**		**0.00839**
Barium	**7440-39-3**	**6.63**	QB-01	**0.958**
Beryllium	**7440-41-7**	**0.0184**		**0.00287**
Cadmium	7440-43-9	0.0158	U	0.0663
Chromium	**7440-47-3**	**2.95**	QB-01	**1.98**
Cobalt	**7440-48-4**	**0.554**		**0.0390**
Copper	**7440-50-8**	**71.8**		**2.35**
Lead	**7439-92-1**	**0.725**		**0.192**
Manganese	**7439-96-5**	**18.2**		**1.69**
Molybdenum	**7439-98-7**	**4.84**	QB-01	**0.321**
Nickel	**7440-02-0**	**1.74**	QB-01	**0.584**
Selenium	**7782-49-2**	**0.246**		**0.00802**
Thallium	**7440-28-0**	**0.00117**		**5.27E-4**
Vanadium	**7440-62-2**	**2.05**		**0.0474**
Zinc	7440-66-6	19.4	U	68.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121824-HM **Lab ID:** 4122328-29 **Sampled:** 12/18/24 23:59
Matrix: Air **Sample Volume:** 2125.118 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 08:35

Comments: Q8504540 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.176**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.281**		**0.00717**
Barium	**7440-39-3**	**5.90**	QB-01	**0.819**
Beryllium	**7440-41-7**	**0.0137**		**0.00245**
Cadmium	7440-43-9	0.0141	U	0.0567
Chromium	**7440-47-3**	**2.28**	QB-01	**1.69**
Cobalt	**7440-48-4**	**0.396**		**0.0334**
Copper	**7440-50-8**	**39.1**		**2.01**
Lead	**7439-92-1**	**1.00**		**0.164**
Manganese	**7439-96-5**	**12.6**		**1.45**
Molybdenum	**7439-98-7**	**2.25**	QB-01	**0.275**
Nickel	**7440-02-0**	**1.47**	QB-01	**0.499**
Selenium	**7782-49-2**	**0.227**		**0.00686**
Thallium	**7440-28-0**	**9.57E-4**		**4.51E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0405**
Zinc	7440-66-6	19.2	U	58.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121824-HM
Matrix: Air
Lab ID: 4122328-30
Sample Volume: 1979.752 m³
Filter ID:
Sampled: 12/18/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 08:51

Comments: Q8529583 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.181**		**0.00770**
Barium	**7440-39-3**	**4.32**	QB-01	**0.879**
Beryllium	**7440-41-7**	**0.0237**		**0.00263**
Cadmium	7440-43-9	0.0121	U	0.0609
Chromium	**7440-47-3**	**3.24**	QB-01	**1.82**
Cobalt	**7440-48-4**	**0.579**		**0.0358**
Copper	**7440-50-8**	**42.2**		**2.16**
Lead	**7439-92-1**	**0.309**		**0.176**
Manganese	**7439-96-5**	**13.4**		**1.55**
Molybdenum	**7439-98-7**	**2.24**	QB-01	**0.295**
Nickel	**7440-02-0**	**1.99**	QB-01	**0.536**
Selenium	**7782-49-2**	**0.243**		**0.00736**
Thallium	**7440-28-0**	**9.44E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**1.67**		**0.0435**
Zinc	7440-66-6	9.50	U	63.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121824-HM
Matrix: Air
Lab ID: 4122328-31
Sample Volume: 1529.562 m³
Filter ID:
Sampled: 12/18/24 23:59
Received: 12/23/24 13:03
Analysis Date: 12/27/24 10:13

Comments: Q8529582 - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.176**	SL	**0.0411**
Arsenic	**7440-38-2**	**0.685**		**0.00997**
Barium	**7440-39-3**	**11.3**	QB-01	**1.14**
Beryllium	**7440-41-7**	**0.0678**		**0.00340**
Cadmium	7440-43-9	0.0335	U	0.0788
Chromium	**7440-47-3**	**6.99**	QB-01	**2.35**
Cobalt	**7440-48-4**	**1.83**		**0.0464**
Copper	**7440-50-8**	**29.1**		**2.80**
Lead	**7439-92-1**	**2.14**		**0.228**
Manganese	**7439-96-5**	**65.7**		**2.01**
Molybdenum	**7439-98-7**	**1.69**	QB-01	**0.382**
Nickel	**7440-02-0**	**4.23**	QB-01	**0.694**
Selenium	**7782-49-2**	**0.427**		**0.00953**
Thallium	**7440-28-0**	**0.00308**		**6.27E-4**
Vanadium	**7440-62-2**	**5.14**		**0.0563**
Zinc	**7440-66-6**	**187**		**81.7**

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-121824-HM
Matrix: Air
Lab ID: 4122328-32
Sample Volume: 1817.209 m³
Filter ID:
Sampled: 12/18/24 00:00
Received: 12/23/24 13:03
Analysis Date: 12/27/24 10:32

Comments: Q8529593 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0312	SL, U	0.0346
Arsenic	**7440-38-2**	**0.00982**	FB-01	**0.00839**
Barium	**7440-39-3**	**1.42**	FB-01, QB-01	**0.958**
Beryllium	7440-41-7	7.16E-4	U	0.00287
Cadmium	7440-43-9	0.00148	U	0.0663
Chromium	7440-47-3	1.00	QB-01, U	1.98
Cobalt	7440-48-4	0.0279	U	0.0390
Copper	7440-50-8	1.60	U	2.35
Lead	7439-92-1	0.0664	U	0.192
Manganese	7439-96-5	0.544	U	1.69
Molybdenum	7439-98-7	0.232	QB-01, U	0.321
Nickel	7440-02-0	0.456	QB-01, U	0.584
Selenium	7782-49-2	0.00515	U	0.00802
Thallium	7440-28-0	1.28E-4	U	5.27E-4
Vanadium	**7440-62-2**	**0.0619**	FB-01	**0.0474**
Zinc	7440-66-6	3.51	U	68.8

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-121824-HM
Matrix: Air
Lab ID: 4122328-33
Sample Volume: 1817.209 m³
Filter ID:
Sampled: 12/18/24 00:00
Received: 12/23/24 13:03
Analysis Date: 12/27/24 10:46

Comments: Q8529599 LB - Received in Good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0217	SL, U	0.0346
Arsenic	7440-38-2	0.00535	U	0.00839
Barium	**7440-39-3**	**1.04**	QB-01	**0.958**
Beryllium	7440-41-7	5.29E-4	U	0.00287
Cadmium	7440-43-9	7.72E-4	U	0.0663
Chromium	7440-47-3	0.944	QB-01, U	1.98
Cobalt	7440-48-4	0.0161	U	0.0390
Copper	7440-50-8	1.50	U	2.35
Lead	7439-92-1	0.0385	U	0.192
Manganese	7439-96-5	0.378	U	1.69
Molybdenum	7439-98-7	0.169	QB-01, U	0.321
Nickel	7440-02-0	0.431	QB-01, U	0.584
Selenium	7782-49-2	0.00237	U	0.00802
Thallium	7440-28-0	1.46E-4	U	5.27E-4
Vanadium	7440-62-2	0.0301	U	0.0474
Zinc	7440-66-6	3.04	U	68.8

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Blank (2412068-CCB1)				Prepared & Analyzed: 12/26/24						
Antimony	0.321		ng/l							
Arsenic	-8.78		ng/l							U
Barium	-94.9		ng/l							U
Beryllium	-0.687		ng/l							U
Cadmium	0.180		ng/l							
Chromium	1.76		ng/l							
Cobalt	0.318		ng/l							
Copper	21.9		ng/l							
Lead	1.63		ng/l							
Manganese	1.01		ng/l							
Molybdenum	26.3		ng/l							
Nickel	-1.83		ng/l							U
Selenium	-1.40		ng/l							U
Thallium	1.14		ng/l							
Vanadium	-61.0		ng/l							U
Zinc	-223		ng/l							U
Calibration Blank (2412068-CCB2)				Prepared & Analyzed: 12/26/24						
Antimony	0.330		ng/l							
Arsenic	-11.0		ng/l							U
Barium	-79.3		ng/l							U
Beryllium	-0.887		ng/l							U
Cadmium	0.0913		ng/l							
Chromium	-0.478		ng/l							U
Cobalt	-0.0736		ng/l							U
Copper	-1.81		ng/l							U
Lead	1.42		ng/l							
Manganese	0.800		ng/l							
Molybdenum	6.81		ng/l							
Nickel	-2.52		ng/l							U
Selenium	-12.3		ng/l							U
Thallium	1.05		ng/l							
Vanadium	-66.2		ng/l							U
Zinc	-199		ng/l							U
Calibration Blank (2412068-CCB3)				Prepared & Analyzed: 12/26/24						
Antimony	0.132		ng/l							
Arsenic	-8.38		ng/l							U
Barium	-101		ng/l							U
Beryllium	-0.954		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Blank (2412068-CCB3) Contin				Prepared & Analyzed: 12/26/24						
Cadmium	0.0437		ng/l							
Chromium	-0.733		ng/l							U
Cobalt	-0.0917		ng/l							U
Copper	-12.4		ng/l							U
Lead	0.805		ng/l							
Manganese	-2.37		ng/l							U
Molybdenum	5.81		ng/l							
Nickel	-3.88		ng/l							U
Selenium	-1.17		ng/l							U
Thallium	0.890		ng/l							
Vanadium	-70.4		ng/l							U
Zinc	-224		ng/l							U
Calibration Blank (2412068-CCB4)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	0.395		ng/l							
Arsenic	-4.13		ng/l							U
Barium	-104		ng/l							U
Beryllium	-1.04		ng/l							U
Cadmium	0.0963		ng/l							
Chromium	-0.638		ng/l							U
Cobalt	0.0396		ng/l							
Copper	-6.45		ng/l							U
Lead	0.651		ng/l							
Manganese	-1.47		ng/l							U
Molybdenum	6.27		ng/l							
Nickel	-1.45		ng/l							U
Selenium	-6.25		ng/l							U
Thallium	0.829		ng/l							
Vanadium	-72.4		ng/l							U
Zinc	-207		ng/l							U
Calibration Blank (2412068-CCB5)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	0.258		ng/l							
Arsenic	-1.50		ng/l							U
Barium	-103		ng/l							U
Beryllium	-1.37		ng/l							U
Cadmium	0.0675		ng/l							
Chromium	-0.516		ng/l							U
Cobalt	-0.0543		ng/l							U
Copper	-6.07		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Blank (2412068-CCB5) Contin				Prepared: 12/26/24 Analyzed: 12/27/24						
Lead	0.994		ng/l							
Manganese	-2.46		ng/l							U
Molybdenum	6.11		ng/l							
Nickel	-0.632		ng/l							U
Selenium	2.50		ng/l							
Thallium	1.11		ng/l							
Vanadium	-71.3		ng/l							U
Zinc	-208		ng/l							U
Calibration Blank (2412068-CCB6)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	0.0883		ng/l							
Arsenic	0.351		ng/l							
Barium	-100		ng/l							U
Beryllium	-1.59		ng/l							U
Cadmium	0.131		ng/l							
Chromium	-0.216		ng/l							U
Cobalt	0.0749		ng/l							
Copper	2.00		ng/l							
Lead	1.68		ng/l							
Manganese	0.0395		ng/l							
Molybdenum	6.26		ng/l							
Nickel	-1.68		ng/l							U
Selenium	-7.51		ng/l							U
Thallium	0.878		ng/l							
Vanadium	-74.9		ng/l							U
Zinc	-188		ng/l							U
Calibration Blank (2412068-CCB7)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	0.233		ng/l							
Arsenic	-4.80		ng/l							U
Barium	-111		ng/l							U
Beryllium	-1.55		ng/l							U
Cadmium	0.0264		ng/l							
Chromium	-0.706		ng/l							U
Cobalt	-0.195		ng/l							U
Copper	-7.22		ng/l							U
Lead	1.33		ng/l							
Manganese	-2.09		ng/l							U
Molybdenum	4.96		ng/l							
Nickel	-2.70		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Blank (2412068-CCB7) Contin				Prepared: 12/26/24 Analyzed: 12/27/24						
Selenium	-7.17		ng/l							U
Thallium	0.916		ng/l							
Vanadium	-68.8		ng/l							U
Zinc	-195		ng/l							U
Calibration Check (2412068-CCV1)				Prepared & Analyzed: 12/26/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2412068-CCV2)				Prepared & Analyzed: 12/26/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	495000		ng/l	500000		99.1	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	526000		ng/l	500000		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Check (2412068-CCV3)				Prepared & Analyzed: 12/26/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2412068-CCV4)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	21300		ng/l	20000		106	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52300		ng/l	50000		105	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	496		ng/l	500.00		99.3	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	539000		ng/l	500000		108	90-110			
Calibration Check (2412068-CCV5)				Prepared: 12/26/24 Analyzed: 12/27/24						
Antimony	21300		ng/l	20000		106	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5220		ng/l	5000.0		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Check (2412068-CCV5) Contin					Prepared: 12/26/24 Analyzed: 12/27/24					
Cadmium	21500		ng/l	20000		108	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	53100		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	493		ng/l	500.00		98.7	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	548000		ng/l	500000		110	90-110			
Calibration Check (2412068-CCV6)					Prepared: 12/26/24 Analyzed: 12/27/24					
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	21500		ng/l	20000		108	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	53000		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	53100		ng/l	50000		106	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2412068-CCV7)					Prepared: 12/26/24 Analyzed: 12/27/24					
Antimony	21400		ng/l	20000		107	90-110			
Arsenic	21100		ng/l	20000		105	90-110			
Barium	209000		ng/l	200000		105	90-110			
Beryllium	4840		ng/l	5000.0		96.8	90-110			
Cadmium	21600		ng/l	20000		108	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Calibration Check (2412068-CCV7) Contin					Prepared: 12/26/24 Analyzed: 12/27/24					
Lead	209000		ng/l	200000		104	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	54100		ng/l	50000		108	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	548000		ng/l	500000		110	90-110			
High Cal Check (2412068-HCV1)					Prepared & Analyzed: 12/26/24					
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.7	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39900		ng/l	40000		99.8	95-105			
Chromium	472000		ng/l	480000		98.4	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.92E6		ng/l	4.0000E6		97.9	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	987000		ng/l	1.0000E6		98.7	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	234000		ng/l	240000		97.5	95-105			
Selenium	39900		ng/l	40000		99.7	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	39900		ng/l	40000		99.9	95-105			
Zinc	973000		ng/l	1.0000E6		97.3	95-105			
Initial Cal Blank (2412068-ICB1)					Prepared & Analyzed: 12/26/24					
Antimony	0.483		ng/l							
Arsenic	-12.2		ng/l							U
Barium	-114		ng/l							U
Beryllium	-0.629		ng/l							U
Cadmium	0.103		ng/l							
Chromium	2.64		ng/l							
Cobalt	-0.275		ng/l							U
Copper	-3.15		ng/l							U
Lead	0.403		ng/l							
Manganese	-0.873		ng/l							U
Molybdenum	8.81		ng/l							
Nickel	-5.17		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Initial Cal Blank (2412068-ICB1) Continu				Prepared & Analyzed: 12/26/24						
Selenium	6.50		ng/l							
Thallium	0.966		ng/l							
Vanadium	-59.3		ng/l							U
Zinc	-203		ng/l							U
Initial Cal Check (2412068-ICV1)				Prepared & Analyzed: 12/26/24						
Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19600		ng/l	20000		98.0	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	48600		ng/l	50000		97.1	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	530000		ng/l	500000		106	90-110			
Interference Check A (2412068-IFA1)				Prepared & Analyzed: 12/26/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	313000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2412068 - B4L2405										
Interference Check B (2412068-IFB1)				Prepared & Analyzed: 12/26/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	200000		ng/l	200000		100	80-120			
Beryllium	4780		ng/l	5000.0		95.5	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	244000		ng/l	240000		102	80-120			
Cobalt	53800		ng/l	50000		108	80-120			
Copper	1.98E6		ng/l	2.0000E6		98.8	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	520000		ng/l	500000		104	80-120			
Molybdenum	368000		ng/l	350000		105	80-120			
Nickel	122000		ng/l	120000		101	80-120			
Selenium	18900		ng/l	20000		94.7	80-120			
Thallium	526		ng/l	500.00		105	80-120			
Vanadium	19900		ng/l	20000		99.5	80-120			
Zinc	497000		ng/l	500000		99.4	80-120			
Batch B4L2405 - ICP-MS Extraction										
Blank (B4L2405-BLK1)				Prepared: 12/24/24 Analyzed: 12/26/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							QB-01, U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							QB-01, U
Nickel	ND	0.652	ng/m³ Air							QB-01, U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4L2405-BS1)				Prepared: 12/24/24 Analyzed: 12/26/24						
Antimony	0.779	0.0386	ng/m³ Air	1.3829		56.3	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		98.9	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			QB-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
LCS (B4L2405-BS1) Continued					Prepared: 12/24/24 Analyzed: 12/26/24					
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.6	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	16.6	2.21	ng/m³ Air	13.829		120	80-120			QB-01
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.63	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.70	0.359	ng/m³ Air	1.3829		123	80-120			QB-01
Nickel	3.32	0.652	ng/m³ Air	2.7658		120	80-120			QB-01
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.8	80-120			
Thallium	0.141	5.89E-4	ng/m³ Air	0.13829		102	80-120			
Vanadium	2.84	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	93.1	76.8	ng/m³ Air	82.975		112	80-120			
LCS (B4L2405-BS2)					Prepared: 12/24/24 Analyzed: 12/26/24					
Antimony	0.785	0.0386	ng/m³ Air	1.3829		56.7	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.8	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		104	80-120			QB-01
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.7	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	16.2	2.21	ng/m³ Air	13.829		117	80-120			QB-01
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		98.7	80-120			
Copper	29.6	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.48	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.68	0.359	ng/m³ Air	1.3829		121	80-120			QB-01
Nickel	3.17	0.652	ng/m³ Air	2.7658		115	80-120			QB-01
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.82	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	92.7	76.8	ng/m³ Air	82.975		112	80-120			
Duplicate (B4L2405-DUP1)		**Source: 4122328-09**			Prepared: 12/24/24 Analyzed: 12/26/24					
Antimony	0.144	0.0371	ng/m³ Air		0.142			1.72	10	SL
Arsenic	0.626	0.00900	ng/m³ Air		0.626			0.0772	10	
Barium	6.67	1.03	ng/m³ Air		6.84			2.37	10	QB-01
Beryllium	0.0313	0.00308	ng/m³ Air		0.0319			1.68	10	
Cadmium	ND	0.0712	ng/m³ Air		ND				10	U
Chromium	4.53	2.12	ng/m³ Air		4.46			1.48	10	QB-01
Cobalt	0.961	0.0419	ng/m³ Air		0.967			0.625	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
Duplicate (B4L2405-DUP1) Continued			**Source: 4122328-09**		Prepared: 12/24/24		Analyzed: 12/26/24			
Copper	26.3	2.53	ng/m³ Air		25.2			4.12	10	
Lead	1.87	0.206	ng/m³ Air		2.65			34.4	10	D-F
Manganese	29.9	1.82	ng/m³ Air		30.5			2.02	10	
Molybdenum	1.58	0.345	ng/m³ Air		1.58			0.327	10	QB-01
Nickel	2.85	0.627	ng/m³ Air		2.47			14.3	10	QB-01
Selenium	0.348	0.00861	ng/m³ Air		0.365			4.92	10	
Thallium	0.00190	5.66E-4	ng/m³ Air		0.00198			3.96	10	
Vanadium	2.70	0.0508	ng/m³ Air		2.75			1.98	10	
Zinc	ND	73.8	ng/m³ Air		ND				10	U
Duplicate (B4L2405-DUP2)			**Source: 4122328-24**		Prepared: 12/24/24		Analyzed: 12/26/24			
Antimony	0.173	0.0341	ng/m³ Air		0.174			0.410	10	SL
Arsenic	0.239	0.00827	ng/m³ Air		0.238			0.182	10	
Barium	6.99	0.944	ng/m³ Air		6.71			4.10	10	QB-01
Beryllium	0.0173	0.00282	ng/m³ Air		0.0171			1.41	10	
Cadmium	ND	0.0654	ng/m³ Air		ND				10	U
Chromium	3.55	1.95	ng/m³ Air		4.19			16.6	10	QB-01
Cobalt	0.649	0.0385	ng/m³ Air		0.644			0.786	10	
Copper	50.9	2.32	ng/m³ Air		52.0			2.15	10	
Lead	0.711	0.189	ng/m³ Air		0.858			18.8	10	
Manganese	17.8	1.67	ng/m³ Air		17.7			0.598	10	
Molybdenum	4.14	0.317	ng/m³ Air		4.21			1.69	10	QB-01
Nickel	2.17	0.575	ng/m³ Air		2.15			1.10	10	QB-01
Selenium	0.240	0.00791	ng/m³ Air		0.233			2.76	10	
Thallium	0.00114	5.20E-4	ng/m³ Air		0.00123			7.55	10	
Vanadium	2.36	0.0467	ng/m³ Air		2.38			0.709	10	
Zinc	ND	67.8	ng/m³ Air		ND				10	U
Duplicate (B4L2405-DUP3)			**Source: 4122328-02**		Prepared: 12/24/24		Analyzed: 12/27/24			
Antimony	0.149	0.0288	ng/m³ Air		0.145			2.28	10	SL
Arsenic	0.491	0.00700	ng/m³ Air		0.492			0.0723	10	
Barium	8.80	0.800	ng/m³ Air		8.75			0.643	10	QB-01
Beryllium	0.0318	0.00239	ng/m³ Air		0.0319			0.00728	10	
Cadmium	ND	0.0554	ng/m³ Air		ND				10	U
Chromium	5.77	1.65	ng/m³ Air		5.72			1.02	10	QB-01
Cobalt	1.18	0.0326	ng/m³ Air		1.18			0.735	10	
Copper	42.3	1.97	ng/m³ Air		41.7			1.28	10	
Lead	1.40	0.160	ng/m³ Air		1.38			1.37	10	
Manganese	31.3	1.41	ng/m³ Air		31.1			0.564	10	
Molybdenum	1.65	0.268	ng/m³ Air		1.65			0.359	10	QB-01

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FILE #: 4205.00.003.001
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
Duplicate (B4L2405-DUP3) Continued		**Source: 4122328-02**		Prepared: 12/24/24	Analyzed: 12/27/24					
Nickel	3.19	0.487	ng/m³ Air		3.17			0.818	10	QB-01
Selenium	0.276	0.00670	ng/m³ Air		0.291			5.24	10	
Thallium	0.00173	4.40E-4	ng/m³ Air		0.00173			0.410	10	
Vanadium	3.66	0.0395	ng/m³ Air		3.64			0.602	10	
Zinc	ND	57.4	ng/m³ Air		ND				10	U
Duplicate (B4L2405-DUP4)		**Source: 4122328-30**		Prepared: 12/24/24	Analyzed: 12/27/24					
Antimony	0.117	0.0317	ng/m³ Air		0.118			0.425	10	SL
Arsenic	0.181	0.00770	ng/m³ Air		0.181			0.0688	10	
Barium	4.31	0.879	ng/m³ Air		4.32			0.213	10	QB-01
Beryllium	0.0234	0.00263	ng/m³ Air		0.0237			1.35	10	
Cadmium	ND	0.0609	ng/m³ Air		ND				10	U
Chromium	3.23	1.82	ng/m³ Air		3.24			0.308	10	QB-01
Cobalt	0.576	0.0358	ng/m³ Air		0.579			0.604	10	
Copper	42.2	2.16	ng/m³ Air		42.2			0.0970	10	
Lead	0.308	0.176	ng/m³ Air		0.309			0.395	10	
Manganese	13.3	1.55	ng/m³ Air		13.4			0.186	10	
Molybdenum	2.26	0.295	ng/m³ Air		2.24			0.835	10	QB-01
Nickel	1.97	0.536	ng/m³ Air		1.99			0.844	10	QB-01
Selenium	0.240	0.00736	ng/m³ Air		0.243			1.28	10	
Thallium	9.84E-4	4.84E-4	ng/m³ Air		9.44E-4			4.16	10	
Vanadium	1.66	0.0435	ng/m³ Air		1.67			0.652	10	
Zinc	ND	63.1	ng/m³ Air		ND				10	U
Matrix Spike (B4L2405-MS1)		**Source: 4122328-09**		Prepared: 12/24/24	Analyzed: 12/26/24					
Antimony	0.785	0.0371	ng/m³ Air	1.3290	0.142	48.4	80-120			SL
Arsenic	3.13	0.00900	ng/m³ Air	2.6580	0.626	94.2	80-120			
Barium	33.1	1.03	ng/m³ Air	26.580	6.84	98.7	80-120			QB-01
Beryllium	1.36	0.00308	ng/m³ Air	1.3290	0.0319	99.9	80-120			
Cadmium	1.36	0.0712	ng/m³ Air	1.3290	ND	103	80-120			
Chromium	18.4	2.12	ng/m³ Air	13.290	4.46	105	80-120			QB-01
Cobalt	2.31	0.0419	ng/m³ Air	1.3290	0.967	101	80-120			
Copper	51.7	2.53	ng/m³ Air	26.580	25.2	99.7	80-120			
Lead	15.1	0.206	ng/m³ Air	13.290	2.65	93.7	80-120			
Manganese	38.0	1.82	ng/m³ Air	7.9739	30.5	93.7	80-120			
Molybdenum	2.82	0.345	ng/m³ Air	1.3290	1.58	92.7	80-120			QB-01
Nickel	4.84	0.627	ng/m³ Air	2.6580	2.47	89.3	80-120			QB-01
Selenium	2.88	0.00861	ng/m³ Air	2.6580	0.365	94.7	80-120			
Thallium	0.135	5.66E-4	ng/m³ Air	0.13290	0.00198	99.9	80-120			
Vanadium	5.34	0.0508	ng/m³ Air	2.6580	2.75	97.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
Matrix Spike (B4L2405-MS1) Continued	**Source: 4122328-09**			Prepared: 12/24/24		Analyzed: 12/26/24				
Zinc	97.5	73.8	ng/m³ Air	79.739	ND	122	80-120			
Matrix Spike (B4L2405-MS2)	**Source: 4122328-24**			Prepared: 12/24/24		Analyzed: 12/26/24				
Antimony	0.824	0.0341	ng/m³ Air	1.2202	0.174	53.2	80-120			SL
Arsenic	2.61	0.00827	ng/m³ Air	2.4403	0.238	97.3	80-120			
Barium	31.5	0.944	ng/m³ Air	24.403	6.71	101	80-120			QB-01
Beryllium	1.28	0.00282	ng/m³ Air	1.2202	0.0171	103	80-120			
Cadmium	1.29	0.0654	ng/m³ Air	1.2202	ND	105	80-120			
Chromium	16.3	1.95	ng/m³ Air	12.202	4.19	98.8	80-120			QB-01
Cobalt	1.87	0.0385	ng/m³ Air	1.2202	0.644	101	80-120			
Copper	81.5	2.32	ng/m³ Air	24.403	52.0	121	80-120			QM-07
Lead	13.3	0.189	ng/m³ Air	12.202	0.858	102	80-120			
Manganese	25.0	1.67	ng/m³ Air	7.3210	17.7	99.6	80-120			
Molybdenum	5.75	0.317	ng/m³ Air	1.2202	4.21	126	80-120			QB-01, QM-07
Nickel	4.48	0.575	ng/m³ Air	2.4403	2.15	95.4	80-120			QB-01
Selenium	2.64	0.00791	ng/m³ Air	2.4403	0.233	98.5	80-120			
Thallium	0.123	5.20E-4	ng/m³ Air	0.12202	0.00123	99.8	80-120			
Vanadium	4.82	0.0467	ng/m³ Air	2.4403	2.38	100	80-120			
Zinc	93.3	67.8	ng/m³ Air	73.210	ND	127	80-120			
Matrix Spike Dup (B4L2405-MSD1)	**Source: 4122328-09**			Prepared: 12/24/24		Analyzed: 12/26/24				
Antimony	0.748	0.0371	ng/m³ Air	1.3290	0.142	45.6	80-120	4.83	20	SL
Arsenic	3.07	0.00900	ng/m³ Air	2.6580	0.626	92.1	80-120	1.76	20	
Barium	32.7	1.03	ng/m³ Air	26.580	6.84	97.4	80-120	1.03	20	QB-01
Beryllium	1.36	0.00308	ng/m³ Air	1.3290	0.0319	99.9	80-120	0.00515	20	
Cadmium	1.35	0.0712	ng/m³ Air	1.3290	ND	101	80-120	1.20	20	
Chromium	18.2	2.12	ng/m³ Air	13.290	4.46	104	80-120	0.762	20	QB-01
Cobalt	2.29	0.0419	ng/m³ Air	1.3290	0.967	99.2	80-120	0.949	20	
Copper	52.3	2.53	ng/m³ Air	26.580	25.2	102	80-120	1.05	20	
Lead	15.7	0.206	ng/m³ Air	13.290	2.65	98.4	80-120	4.02	20	
Manganese	38.2	1.82	ng/m³ Air	7.9739	30.5	96.2	80-120	0.525	20	
Molybdenum	2.81	0.345	ng/m³ Air	1.3290	1.58	92.3	80-120	0.180	20	QB-01
Nickel	4.88	0.627	ng/m³ Air	2.6580	2.47	90.9	80-120	0.826	20	QB-01
Selenium	2.87	0.00861	ng/m³ Air	2.6580	0.365	94.2	80-120	0.505	20	
Thallium	0.134	5.66E-4	ng/m³ Air	0.13290	0.00198	99.7	80-120	0.235	20	
Vanadium	5.31	0.0508	ng/m³ Air	2.6580	2.75	96.3	80-120	0.564	20	
Zinc	96.2	73.8	ng/m³ Air	79.739	ND	121	80-120	1.26	20	
Matrix Spike Dup (B4L2405-MSD2)	**Source: 4122328-24**			Prepared: 12/24/24		Analyzed: 12/26/24				
Antimony	0.802	0.0341	ng/m³ Air	1.2202	0.174	51.5	80-120	2.60	20	SL
Arsenic	2.59	0.00827	ng/m³ Air	2.4403	0.238	96.4	80-120	0.814	20	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
Matrix Spike Dup (B4L2405-MSD2) Contir		**Source: 4122328-24**		Prepared: 12/24/24		Analyzed: 12/26/24				
Barium	31.1	0.944	ng/m³ Air	24.403	6.71	99.8	80-120	1.29	20	QB-01
Beryllium	1.25	0.00282	ng/m³ Air	1.2202	0.0171	101	80-120	2.46	20	
Cadmium	1.27	0.0654	ng/m³ Air	1.2202	ND	104	80-120	1.37	20	
Chromium	16.1	1.95	ng/m³ Air	12.202	4.19	97.7	80-120	0.853	20	QB-01
Cobalt	1.85	0.0385	ng/m³ Air	1.2202	0.644	98.5	80-120	1.43	20	
Copper	85.4	2.32	ng/m³ Air	24.403	52.0	137	80-120	4.67	20	QM-07
Lead	13.2	0.189	ng/m³ Air	12.202	0.858	101	80-120	0.511	20	
Manganese	24.4	1.67	ng/m³ Air	7.3210	17.7	92.5	80-120	2.08	20	
Molybdenum	6.17	0.317	ng/m³ Air	1.2202	4.21	161	80-120	7.10	20	QB-01, QM-07
Nickel	4.36	0.575	ng/m³ Air	2.4403	2.15	90.6	80-120	2.67	20	QB-01
Selenium	2.61	0.00791	ng/m³ Air	2.4403	0.233	97.4	80-120	1.01	20	
Thallium	0.122	5.20E-4	ng/m³ Air	0.12202	0.00123	99.3	80-120	0.451	20	
Vanadium	4.73	0.0467	ng/m³ Air	2.4403	2.38	96.3	80-120	1.93	20	
Zinc	92.2	67.8	ng/m³ Air	73.210	ND	126	80-120	1.11	20	
Post Spike (B4L2405-PS2)		**Source: 4122328-24**		Prepared: 12/24/24		Analyzed: 12/26/24				
Antimony	0.415	0.0341	ng/m³ Air	0.24403	0.174	98.7	75-125			SL
Arsenic	1.40	0.00827	ng/m³ Air	1.2202	0.238	95.0	75-125			
Barium	8.99	0.944	ng/m³ Air	2.4403	6.71	93.4	75-125			QB-01
Beryllium	0.269	0.00282	ng/m³ Air	0.24403	0.0171	103	75-125			
Cadmium	0.139	0.0654	ng/m³ Air	0.12202	ND	114	75-125			
Chromium	5.49	1.95	ng/m³ Air	1.2202	4.19	106	75-125			QB-01
Cobalt	0.892	0.0385	ng/m³ Air	0.24403	0.644	102	75-125			
Copper	65.3	2.32	ng/m³ Air	12.202	52.0	108	75-125			
Lead	25.4	0.189	ng/m³ Air	24.403	0.858	101	75-125			
Manganese	20.2	1.67	ng/m³ Air	2.4403	17.7	105	75-125			
Molybdenum	5.40	0.317	ng/m³ Air	1.2202	4.21	97.8	75-125			QB-01
Nickel	4.59	0.575	ng/m³ Air	2.4403	2.15	100	75-125			QB-01
Selenium	1.42	0.00791	ng/m³ Air	1.2202	0.233	97.5	75-125			
Thallium	0.0614	5.20E-4	ng/m³ Air	6.1008E-2	0.00123	98.6	75-125			
Vanadium	3.60	0.0467	ng/m³ Air	1.2202	2.38	99.7	75-125			
Zinc	ND	67.8	ng/m³ Air	24.403	ND		75-125			U
Dilution Check (B4L2405-SRL1)		**Source: 4122328-09**		Prepared: 12/24/24		Analyzed: 12/26/24				
Antimony	ND	0.185	ng/m³ Air		ND				10	SL, U
Arsenic	0.626	0.0450	ng/m³ Air		0.626			0.0772	10	
Barium	6.67	5.14	ng/m³ Air		6.84			2.41	10	QB-01
Beryllium	0.0308	0.0154	ng/m³ Air		0.0319			3.36	10	
Cadmium	ND	0.356	ng/m³ Air		ND				10	U
Chromium	ND	10.6	ng/m³ Air		ND				10	QB-01, U

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L2405 - ICP-MS Extraction										
Dilution Check (B4L2405-SRL1) Continue			**Source: 4122328-09**		Prepared: 12/24/24 Analyzed: 12/26/24					
Cobalt	0.983	0.209	ng/m³ Air		0.967			1.65	10	
Copper	25.7	12.6	ng/m³ Air		25.2			1.95	10	
Lead	2.57	1.03	ng/m³ Air		2.65			3.09	10	
Manganese	30.7	9.08	ng/m³ Air		30.5			0.688	10	
Molybdenum	ND	1.73	ng/m³ Air		ND				10	QB-01, U
Nickel	ND	3.13	ng/m³ Air		ND				10	QB-01, U
Selenium	0.361	0.0431	ng/m³ Air		0.365			1.11	10	
Thallium	0.00342	0.00283	ng/m³ Air		ND			53.4	10	
Vanadium	2.70	0.254	ng/m³ Air		2.75			1.96	10	
Zinc	ND	369	ng/m³ Air		ND				10	U
Dilution Check (B4L2405-SRL2)			**Source: 4122328-24**		Prepared: 12/24/24 Analyzed: 12/26/24					
Antimony	0.170	0.170	ng/m³ Air		0.174				10	SL
Arsenic	0.231	0.0413	ng/m³ Air		0.238			3.11	10	
Barium	6.66	4.72	ng/m³ Air		6.71			0.756	10	QB-01
Beryllium	0.0173	0.0141	ng/m³ Air		0.0171			1.14	10	
Cadmium	ND	0.327	ng/m³ Air		ND				10	U
Chromium	ND	9.75	ng/m³ Air		ND				10	QB-01, U
Cobalt	0.658	0.192	ng/m³ Air		0.644			2.08	10	
Copper	53.9	11.6	ng/m³ Air		52.0			3.49	10	
Lead	ND	0.944	ng/m³ Air		ND				10	U
Manganese	17.8	8.34	ng/m³ Air		17.7			0.834	10	
Molybdenum	4.27	1.58	ng/m³ Air		4.21			1.35	10	QB-01
Nickel	ND	2.88	ng/m³ Air		ND				10	QB-01, U
Selenium	0.237	0.0395	ng/m³ Air		0.233			1.71	10	
Thallium	0.00298	0.00260	ng/m³ Air		ND			82.8	10	
Vanadium	2.35	0.233	ng/m³ Air		2.38			1.53	10	
Zinc	ND	339	ng/m³ Air		ND				10	U

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/03/2025 and Shanna Vasser 01/07/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 12/12/2024 – 12/18/2024
Report No: 4122328

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for antimony, arsenic, barium, cobalt, copper, nickel, and vanadium in MFL-FB01-121224-HM; for barium in MFL-FB01-121424-HM; for arsenic and barium in MFL-FB01-121624-HM; for arsenic, barium, and vanadium in MFL-FB01-121824-HM; and for barium in MFL-LB01-121824-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

December 19 through December 25, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until the Hawaii Department of Health (HDOH) advises otherwise.

Particulate monitoring and air sampling occurred from December 19 through December 25, 2024, at the community locations listed below and shown on Figure 1. The monitoring and sampling station located at Lahaina Recreational Center (AM-07) required relocation because the Lahaina Recreational Center was beginning operations again at the baseball field. Following conversations between Tetra Tech and the HDOH, that station was relocated to the Lahaina Pump Station #6 (AM-08) on December 20.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	12/19/2024 - 12/25/2024
Lahaina Intermediate School	AM-03	12/19/2024 - 12/25/2024
Opukea Townhomes	AM-05	12/19/2024 - 12/25/2024
Lahaina Recreational Center	AM-07	12/19/2024 - 12/20/2024
Lahaina Pump Station #6	AM-08	12/20/2024 - 12/25/2024

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from December 19 through December 25 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of the relocation of the Lahaina Recreational Center sampling location, as described below:

- The air monitoring and sampling station located at Lahaina Recreation Center (AM-07) was relocated to Lahaina Pump Station #6 (AM-08) at the guidance of the HDOH on December 20 because the Lahaina Recreational center was resuming operations. As a result of the time needed for station removal and set up, only 9 hours of monitoring was conducted at Lahaina Recreational Center (AM-07) and 14 hours of monitoring was conducted at Lahaina Pump Station #6 (AM-08) on December 20.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 20 samples for asbestos fibers were collected during this reporting period. With the approval of the HDOH, Tetra Tech field teams were not dispatched on December 24 or 25 in observance of the Christmas Day holiday. The field teams did not deploy air samples at any of the four air sampling stations on December 23, 24, or 25. Subsequently, samples were not collected on December 24 or 25 because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- WW Pump Station #4 on December 22 and 23
- Lahaina Pump Station #6 on December 22

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually

and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

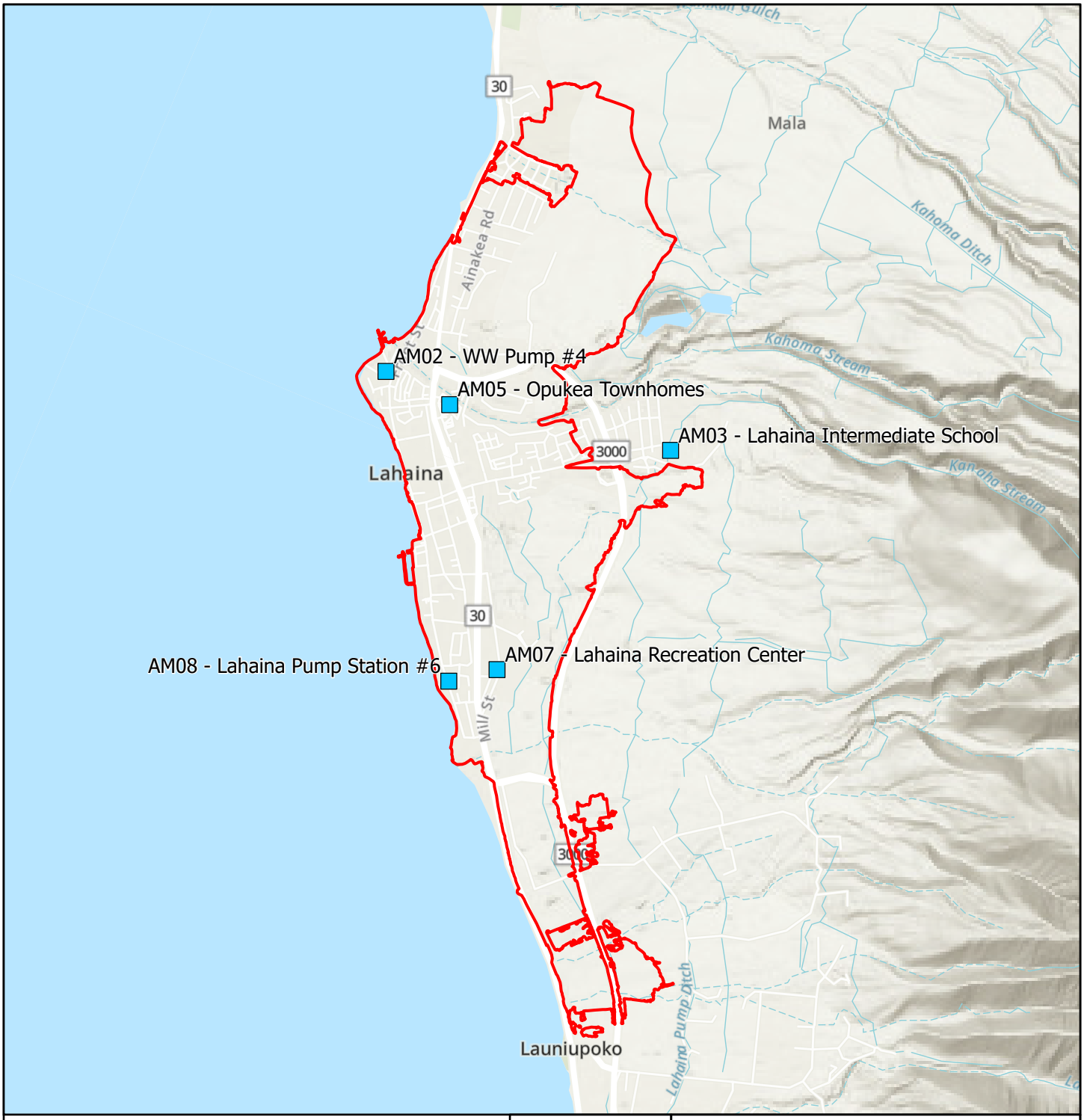
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
December 19 through December 25, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
12/19/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	12
	Lahaina Recreation Center (AM-07)	18
12/20/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Recreation Center (AM-07)	5.4*
	Lahaina Pump Station #6 (AM-08)	7.6**
12/21/2024	Opukea Townhomes (AM-05)	8.6
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Pump Station #6 (AM-08)	7.0
12/22/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Pump Station #6 (AM-08)	10
12/23/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Pump Station #6 (AM-08)	8.4
12/24/2024	Opukea Townhomes (AM-05)	9.1
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Pump Station #6 (AM-08)	7.4
12/25/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Pump Station #6 (AM-08)	7.8

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided were from a reduced (9-hr) TWA calculation because station equipment was moved to Lahaina Pump Station #6 (AM-08)
** Data provided were from a reduced (14-hr) TWA calculation because stationequipment was moved from Lahaina Recreation Center (AM-07)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 19 through December 25, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
12/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.000244	0.000537	0.00936	0.0000307	ND	0.00411	0.000981	0.0545	0.000962	0.0367	0.00296	0.00239	0.000360	0.00000319	0.00344	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000352	0.000907	0.00850	0.0000162	ND	0.00296	0.000585	0.0452	0.00134	0.0183	0.00278	0.00180	0.000300	0.00000139	0.00220	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000684	0.000246	0.00578	0.0000329	ND	0.00445	0.000903	0.0427	0.000366	0.0206	0.00205	0.00277	0.000287	0.00000155	0.00269	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000199	0.00168	0.0179	0.000105	ND	0.0112	0.00296	0.0313	0.00229	0.110	0.00143	0.00634	0.000623	0.00000550	0.00829	0.284
12/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000162	0.000254	0.00622	0.0000116	ND	0.00246	0.000451	0.0537	0.000521	0.0133	0.00316	0.00212	0.000224	0.00000119	0.00265	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000285	0.000386	0.00850	0.0000170	ND	0.00302	0.000676	0.0435	0.000710	0.0183	0.00242	0.00255	0.000248	0.00000138	0.00322	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000854	0.000197	0.00389	0.0000194	ND	0.00275	0.000531	0.0512	0.000303	0.0128	0.00246	0.00217	0.000206	0.000000970	0.00237	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.000218	0.000640	0.00900	0.0000461	ND	0.00623	0.00144	0.0310	0.00135	0.0457	0.00179	0.00412	0.000362	0.00000231	0.00473	ND
12/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000186	0.000196	0.00488	0.00000768	ND	0.00195	0.000288	0.0649	0.000557	0.00862	0.00494	0.00157	0.000195	0.00000108	0.00141	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000270	0.000500	0.00739	0.0000137	ND	0.00237	0.000444	0.0435	0.00112	0.0140	0.00215	0.00154	0.000197	0.00000130	0.00189	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000817	0.000158	0.00352	0.0000196	ND	0.00233	0.000361	0.0524	0.000469	0.0100	0.00208	0.00169	0.000182	0.00000102	0.00154	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000150	0.000262	0.00404	0.00000934	ND	0.00238	0.000351	0.0292	0.000442	0.0102	0.00179	0.00160	0.000214	0.00000123	0.00162	ND
12/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000133	0.000225	0.00471	0.00000923	ND	0.00258	0.000373	0.0513	0.000380	0.0104	0.00335	0.00163	0.000233	0.00000148	0.00189	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000245	0.000320	0.00612	0.0000116	ND	0.00229	0.000409	0.0341	0.000691	0.0124	0.00210	0.00162	0.000223	0.00000148	0.00201	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000492	0.000151	0.00285	0.0000135	ND	0.00189	0.000319	0.0409	0.000299	0.00874	0.00231	0.00140	0.000198	0.00000133	0.00148	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000165	0.000710	0.00528	0.0000116	ND	0.00314	0.000392	0.0334	0.00119	0.0142	0.00177	0.00182	0.000252	0.00000168	0.00184	ND
12/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000183	0.000554	0.0106	0.0000250	ND	0.00423	0.000924	0.0637	0.00111	0.0301	0.00283	0.00270	0.000282	0.00000285	0.00337	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000190	0.000974	0.0104	0.0000243	ND	0.00443	0.000772	0.0530	0.00249	0.0250	0.00210	0.00244	0.000266	0.00000204	0.00286	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000479	0.000258	0.00465	0.0000290	ND	0.00314	0.000623	0.0458	0.000475	0.0176	0.00197	0.00208	0.000237	0.00000202	0.00218	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000164	0.000642	0.00500	0.0000141	ND	0.00291	0.000414	0.0294	0.00112	0.0154	0.00164	0.00172	0.000258	0.00000202	0.00194	ND
12/24/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
12/25/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
95% Upper Confidence Limit[2]		NA	0.000230	0.000680	0.00845	0.0000310	NA	0.00421	0.000900	0.0497	0.00124	0.0292	0.00271	0.00267	0.000300	0.00000220	0.00320	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Christmas and following day holiday observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 19, through December 25, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/19/2024	AM-02	WW Pump Station #4	0.7	S	77	74	762.9
12/19/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	67	753.3
12/19/2024	AM-05	Opukea Townhomes	1.0	E	78	67	762.3
12/19/2024	AM-07	Lahaina Recreational Center	1.3	SE	76	73	762.0
12/20/2024	AM-02	WW Pump Station #4	0.8	S	78	73	762.5
12/20/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	70	752.9
12/20/2024	AM-05	Opukea Townhomes	1.0	ESE	79	67	761.9
12/20/2024	AM-07	Lahaina Recreational Center	1.0	E	72	72	761.5
12/20/2024	AM-08	Lahaina Pump Station #6	1.5	SSW	79	70	760.8
12/21/2024	AM-02	WW Pump Station #4	0.8	SE	77	73	762.8
12/21/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	70	753.1
12/21/2024	AM-05	Opukea Townhomes	1.2	ESE	77	67	762.2
12/21/2024	AM-08	Lahaina Pump Station #6	1.5	SE	76	72	762.8
12/22/2024	AM-02	WW Pump Station #4	1.1	SSE	78	69	764.3
12/22/2024	AM-03	Lahaina Intermediate School	1.5	ESE	77	62	754.6
12/22/2024	AM-05	Opukea Townhomes	1.3	E	79	62	763.6
12/22/2024	AM-08	Lahaina Pump Station #6	1.8	S	77	68	764.3
12/23/2024	AM-02	WW Pump Station #4	0.9	S	78	67	764.8
12/23/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	64	755.1
12/23/2024	AM-05	Opukea Townhomes	1.2	SE	79	61	764.2
12/23/2024	AM-08	Lahaina Pump Station #6	2.2	SSW	78	68	764.8
12/24/2024	AM-02	WW Pump Station #4	0.9	SSE	78	68	764.8
12/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	64	755.1
12/24/2024	AM-05	Opukea Townhomes	1.1	ESE	79	62	764.2
12/24/2024	AM-08	Lahaina Pump Station #6	1.6	S	78	65	764.8
12/25/2024	AM-02	WW Pump Station #4	0.9	SSE	78	67	764.2
12/25/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	62	754.5
12/25/2024	AM-05	Opukea Townhomes	1.2	SE	79	61	763.6
12/25/2024	AM-08	Lahaina Pump Station #6	1.6	S	77	65	764.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-121924-AB** **Sample Description: DL697992**

EMSL Sample Number:	000004518-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7141.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0001 **Customer Sample:** MFL-AM05-121924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A6	B3	None Detected									
A6	E7	None Detected									
A6	H6	None Detected									
A7	G6	None Detected									
A7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-121924-AB**		**Sample Description:**	**DL697981**
EMSL Sample Number:	000004518-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6521.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0002 **Customer Sample:** MFL-AM02-121924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I3	None Detected									
B1	E7	None Detected									
B1	A4	None Detected									
B2	I7	None Detected									
B2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-121924-AB** **Sample Description: DL698443**

EMSL Sample Number:	000004518-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7224.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0003 **Customer Sample:** MFL-AM03-121924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	D4	None Detected									
B5	I6	None Detected									
B6	C3	None Detected									
B6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-121924-AB**	**Sample Description:**	**DL697485**
EMSL Sample Number:	000004518-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7208.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0004 **Customer Sample:** MFL-AM07-121924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I5	None Detected									
C1	E4	None Detected									
C1	B4	None Detected									
C2	J7	None Detected									
C2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-121924-AB** **Sample Description: DL697987**

EMSL Sample Number:	000004518-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0005 **Customer Sample:** MFL-FB01-121924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I8	None Detected									
C5	G4	None Detected									
C5	E7	None Detected									
C5	B4	None Detected									
C6	A6	None Detected									
C6	F3	None Detected									
C6	J5	None Detected									
C7	I3	None Detected									
C7	H7	None Detected									
C7	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122024-AB**	**Sample Description:**	**DL698505**
EMSL Sample Number:	000004518-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0006 **Customer Sample:** MFL-AM05-122024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A3	None Detected									
D1	E7	None Detected									
D1	I6	None Detected									
D2	C8	None Detected									
D2	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-122024-AB** **Sample Description: DL698508**

EMSL Sample Number:	000004518-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6480.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0007 **Customer Sample:** MFL-AM02-122024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B7	None Detected									
D5	F7	None Detected									
D5	J7	None Detected									
D6	D6	None Detected									
D6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122024-AB**	**Sample Description:**	**DL698539**
EMSL Sample Number:	000004518-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7188.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0008 **Customer Sample:** MFL-AM03-122024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	F4	None Detected									
E1	A6	None Detected									
E2	C3	None Detected									
E2	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-122024-AB**	**Sample Description:**	**DL698338**
EMSL Sample Number:	000004518-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	5572.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.63**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0009 **Customer Sample:** MFL-AM07-122024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A4	None Detected									
E5	E7	None Detected									
E5	I4	None Detected									
E6	B7	None Detected									
E7	H2	None Detected									
E7	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-122024-AB**		**Sample Description:**	**DL698364**
EMSL Sample Number:	000004518-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**000004518**
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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0010 **Customer Sample:** MFL-FB01-122024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J8	None Detected									
F1	F4	None Detected									
F1	B6	None Detected									
F2	A3	None Detected									
F2	D5	None Detected									
F2	J7	None Detected									
F3	C8	None Detected									
F3	E3	None Detected									
F3	G6	None Detected									
F4	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122124-AB**	**Sample Description:**	**DL698043**
EMSL Sample Number:	000004518-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7179.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0011 **Customer Sample:** MFL-AM05-122124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A8	None Detected									
F5	E4	None Detected									
F5	J6	None Detected									
F6	B9	None Detected									
F6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-122124-AB**		**Sample Description:**	**DL697990**
EMSL Sample Number:	000004518-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6793.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0012 **Customer Sample:** MFL-AM02-122124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I7	None Detected									
G1	F3	None Detected									
G1	C5	None Detected									
G2	J5	None Detected									
G2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122124-AB**	**Sample Description:**	**DL698003**
EMSL Sample Number:	000004518-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7187.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0013 **Customer Sample:** MFL-AM03-122124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	D2	None Detected									
G5	E5	None Detected									
G5	I9	None Detected									
G6	B7	None Detected									
G6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-122124-AB**	**Sample Description:**	**DL698493**
EMSL Sample Number:	000004518-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7379.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0014 **Customer Sample:** MFL-AM08-122124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A3	None Detected									
H1	E5	None Detected									
H1	J3	None Detected									
H2	H7	None Detected									
H2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-122124-AB**		**Sample Description:**	**DL698383**
EMSL Sample Number:	000004518-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0015 **Customer Sample:** MFL-FB01-122124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A8	None Detected									
H5	C5	None Detected									
H5	F3	None Detected									
H5	I4	None Detected									
H6	B5	None Detected									
H6	D8	None Detected									
H6	G7	None Detected									
H7	A9	None Detected									
H7	A6	None Detected									
H7	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122224-AB**	**Sample Description:**	**DL698249**
EMSL Sample Number:	000004518-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7207.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0016 **Customer Sample:** MFL-AM05-122224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J5	None Detected									
I1	E7	None Detected									
I1	A5	None Detected									
I2	H3	None Detected									
I2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-122224-AB**		**Sample Description:**	**DL698548**
EMSL Sample Number:	000004518-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6860.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0017 **Customer Sample:** MFL-AM02-122224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	H8	None Detected									
I5	F3	None Detected									
I5	C6	None Detected									
I6	D4	None Detected									
I6	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122224-AB**	**Sample Description:**	**DL698367**
EMSL Sample Number:	000004518-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7244.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: **000004518-0018** **Customer Sample:** **MFL-AM03-122224-AB**

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B3	None Detected									
J1	G2	None Detected									
J1	J5	None Detected									
J2	H5	None Detected									
J2	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-122224-AB** **Sample Description: DL698256**

EMSL Sample Number:	000004518-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0019 **Customer Sample:** MFL-AM08-122224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H8	None Detected									
J5	G6	None Detected									
J5	B7	None Detected									
J6	J8	None Detected									
J6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/04/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-122224-AB**		**Sample Description:**	**DL698125**
EMSL Sample Number:	000004518-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0020 **Customer Sample:** MFL-FB01-122224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J7	None Detected									
K1	E9	None Detected									
K1	D5	None Detected									
K2	B3	None Detected									
K2	C7	None Detected									
K2	F9	None Detected									
K2	I6	None Detected									
K3	J7	None Detected									
K3	E8	None Detected									
K3	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-518
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/02/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004518-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID:	**000004518**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004518-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J7	None Detected									
A1	H4	None Detected									
A1	E3	None Detected									
A1	A6	None Detected									
A2	B2	None Detected									
A2	D7	None Detected									
A2	G5	None Detected									
A3	A3	None Detected									
A3	F2	None Detected									
A3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-518

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

RECEIVED
JAN 2 AM 9:39
CINNAMINSON, NJ

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina A L. Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.6 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-121924-AB	DL697992	7,141.228	12/19/24 1056
MFL-AM02-121924-AB	DL697981	6,521.393	12/19/24 1112
MFL-AM03-121924-AB	DL698443	7,224.372	12/19/24 1257
MFL-AM07-121924-AB	DL697485	7,208.119	12/19/24 1317
MFL-FB01-121924-AB	DL697987	0	12/19/24 1200
MFL-AM05-122024-AB	DL698505	7,227.263	12/20/24 1101
MFL-AM02-122024-AB	DL698508	6,479.992	12/20/24 1117
MFL-AM03-122024-AB	DL698539	7,188.633	12/20/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time: 12/23/24 1100	Received by: FedEx	Date/Time 1/2/25 9:30 A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

04-518

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-122024-AB	DL698338	5,572.902	12/20/24 0805
MFL-FB01-122024-AB	DL698364	0	12/20/24 1200
MFL-AM05-122124-AB	DL698043	7,179.305	12/21/24 1100
MFL-AM02-122124-AB	DL697990	6,793.288	12/21/24 1115
MFL-AM03-122124-AB	DL698003	7,187.156	12/21/24 1257
MFL-AM08-122124-AB	DL698493	7,379.524	12/21/24 1313
MFL-FB01-122124-AB	DL698383	0	12/21/24 1200
MFL-AM05-122224-AB	DL698249	7,207.427	12/22/24 1100
MFL-AM02-122224-AB	DL698548	6,860.812	12/22/24 1116
MFL-AM03-122224-AB	DL698367	7,244.023	12/22/24 1254
MFL-AM08-122224-AB	DL698256	7,242.623	12/22/24 1313
MFL-FB01-122224-AB	DL698125	0	12/22/24 1200

Method of Shipment:	Fedex		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 12/23/24 1100	Received by: FedEx	Date/Time	1/25 9:30
Relinquished by:		Date/Time:	Received by:	Date/Time	

RECEIVED EMSL CINNAMINSON, NJ 25 JAN -2 AM 9:39

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/07/2025 and Shanna Vasser 01/07/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/19/2024 – 12/22/2024
Report No: 04-518

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122324-AB**	**Sample Description:**	**DL697978**
EMSL Sample Number:	000004520-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7233.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0001 **Customer Sample:** MFL-AM05-122324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	I6	None Detected									
I5	F8	None Detected									
I5	C8	None Detected									
I6	I6	None Detected									
I6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-122324-AB**		**Sample Description:**	**DL698110**
EMSL Sample Number:	000004520-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6941.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0002 **Customer Sample:** MFL-AM02-122324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J7	None Detected									
J2	G9	None Detected									
J2	D1	None Detected									
J3	J1	None Detected									
J3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-122324-AB** **Sample Description: DL698002**

EMSL Sample Number:	000004520-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0003 **Customer Sample:** MFL-AM03-122324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J2	None Detected									
J5	F3	None Detected									
J5	D7	None Detected									
J6	H7	None Detected									
J6	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-122324-AB** **Sample Description: DL698007**

EMSL Sample Number:	000004520-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7289.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0004 **Customer Sample:** MFL-AM08-122324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A8	None Detected									
K2	C5	None Detected									
K2	E7	None Detected									
K3	G2	None Detected									
K3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-122324-AB** **Sample Description: DL694734**

EMSL Sample Number:	000004520-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0005 **Customer Sample:** MFL-FB01-122324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	C3	None Detected									
K5	E8	None Detected									
K5	G3	None Detected									
K5	I6	None Detected									
K6	A3	None Detected									
K6	C4	None Detected									
K6	E3	None Detected									
K6	G9	None Detected									
K6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-520
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	
Analysis Date:	01/03/2025
Report Date:	01/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004520-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004520**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004520-0006 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A6	None Detected									
I2	C9	None Detected									
I2	E7	None Detected									
I2	G2	None Detected									
I2	I1	None Detected									
I3	A9	None Detected									
I3	C10	None Detected									
I3	E7	None Detected									
I3	G5	None Detected									
I3	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-520

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
25 JAN 2 AM 9:30
EMSL
CINNAMINSON, NJ

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Sheaina Epstein	Sampled By Signature:	
No. of Samples In Shipment	5		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description*	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-122324-AB	DL697978	7,233.175	12/23/24 1054
MFL-AM02-122324-AB	DL698110	6,941.095	12/23/24 1113
MFL-AM03-122324-AB	DL698002	7,205.188	12/23/24 1259
MFL-AM08-122324-AB	DL698007	7,289.587	12/23/24 1317
MFL-FB01-122324-AB	DL694734	0	12/23/24 1200

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

5

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 12/26/24 1100	Received by: FedEx
Date/Time	1/2/25 9:30 A		
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/06/2025 and Shanna Vasser 01/07/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/23/2024
Report No: 04-520

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

January 09, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/30/24 12:14.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-121924-HM	4123049-01	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM02-121924-HM	4123049-02	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM03-121924-HM	4123049-03	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM07-121924-HM	4123049-04	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM05-122024-HM	4123049-05	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM02-122024-HM	4123049-06	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM03-122024-HM	4123049-07	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM07-122024-HM	4123049-08	Air	12/20/24 23:59	12/30/24 12:14
MFL-FB01-122024-HM	4123049-09	Air	12/20/24 00:00	12/30/24 12:14
MFL-AM05-122124-HM	4123049-10	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM02-122124-HM	4123049-11	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM03-122124-HM	4123049-12	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM08-122124-HM	4123049-13	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM05-122224-HM	4123049-14	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM02-122224-HM	4123049-15	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM03-122224-HM	4123049-16	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM08-122224-HM	4123049-17	Air	12/22/24 23:59	12/30/24 12:14
MFL-FB01-122224-HM	4123049-18	Air	12/22/24 00:00	12/30/24 12:14
MFL-AM05-122324-HM	4123049-19	Air	12/23/24 23:59	12/30/24 12:14
MFL-AM02-122324-HM	4123049-20	Air	12/23/24 23:59	12/30/24 12:14
MFL-AM03-122324-HM	4123049-21	Air	12/23/24 23:59	12/30/24 12:14

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM08-122324-HM	4123049-22	Air	12/23/24 23:59	12/30/24 12:14

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-121924-HM
Matrix: Air
Lab ID: 4123049-01
Sample Volume: 1662.763 m³
Filter ID:
Sampled: 12/19/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 01:09

Comments: Q8529579 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.244**	SL	**0.0378**
Arsenic	**7440-38-2**	**0.537**		**0.00917**
Barium	**7440-39-3**	**9.36**	QB-01	**1.05**
Beryllium	**7440-41-7**	**0.0307**		**0.00313**
Cadmium	7440-43-9	0.0403	U	0.0725
Chromium	**7440-47-3**	**4.11**		**2.16**
Cobalt	**7440-48-4**	**0.981**		**0.0427**
Copper	**7440-50-8**	**54.5**		**2.57**
Lead	**7439-92-1**	**0.962**		**0.209**
Manganese	**7439-96-5**	**36.7**		**1.85**
Molybdenum	**7439-98-7**	**2.96**	QB-01	**0.351**
Nickel	**7440-02-0**	**2.39**	GC-BS	**0.638**
Selenium	**7782-49-2**	**0.360**		**0.00877**
Thallium	**7440-28-0**	**0.00319**	QB-04	**5.76E-4**
Vanadium	**7440-62-2**	**3.44**		**0.0518**
Zinc	7440-66-6	31.0	U	75.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-121924-HM
Matrix: Air
Lab ID: 4123049-02
Sample Volume: 2161.021 m³
Filter ID:
Sampled: 12/19/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 01:24

Comments: Q8529576 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.352**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.907**		**0.00705**
Barium	**7440-39-3**	**8.50**	QB-01	**0.806**
Beryllium	**7440-41-7**	**0.0162**		**0.00241**
Cadmium	7440-43-9	0.0343	U	0.0558
Chromium	**7440-47-3**	**2.96**		**1.66**
Cobalt	**7440-48-4**	**0.585**		**0.0328**
Copper	**7440-50-8**	**45.2**		**1.98**
Lead	**7439-92-1**	**1.34**		**0.161**
Manganese	**7439-96-5**	**18.3**		**1.42**
Molybdenum	**7439-98-7**	**2.78**	QB-01	**0.270**
Nickel	**7440-02-0**	**1.80**	GC-BS	**0.491**
Selenium	**7782-49-2**	**0.300**		**0.00675**
Thallium	**7440-28-0**	**0.00139**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0398**
Zinc	7440-66-6	30.9	U	57.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-121924-HM
Matrix: Air
Lab ID: 4123049-03
Sample Volume: 1977.269 m³
Filter ID:
Sampled: 12/19/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 01:40

Comments: Q8529596 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0684**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.246**		**0.00771**
Barium	**7440-39-3**	**5.78**	QB-01	**0.880**
Beryllium	**7440-41-7**	**0.0329**		**0.00263**
Cadmium	7440-43-9	0.0156	U	0.0610
Chromium	**7440-47-3**	**4.45**		**1.82**
Cobalt	**7440-48-4**	**0.903**		**0.0359**
Copper	**7440-50-8**	**42.7**		**2.16**
Lead	**7439-92-1**	**0.366**		**0.176**
Manganese	**7439-96-5**	**20.6**		**1.56**
Molybdenum	**7439-98-7**	**2.05**	QB-01	**0.295**
Nickel	**7440-02-0**	**2.77**	GC-BS	**0.536**
Selenium	**7782-49-2**	**0.287**		**0.00737**
Thallium	**7440-28-0**	**0.00155**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**2.69**		**0.0435**
Zinc	7440-66-6	9.75	U	63.2

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-121924-HM
Matrix: Air
Lab ID: 4123049-04
Sample Volume: 1454.265 m³
Filter ID:
Sampled: 12/19/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 01:54

Comments: Q8529594 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0432**
Arsenic	**7440-38-2**	**1.68**		**0.0105**
Barium	**7440-39-3**	**17.9**	QB-01	**1.20**
Beryllium	**7440-41-7**	**0.105**		**0.00358**
Cadmium	7440-43-9	0.0442	U	0.0829
Chromium	**7440-47-3**	**11.2**		**2.47**
Cobalt	**7440-48-4**	**2.96**		**0.0488**
Copper	**7440-50-8**	**31.3**		**2.94**
Lead	**7439-92-1**	**2.29**		**0.239**
Manganese	**7439-96-5**	**110**		**2.11**
Molybdenum	**7439-98-7**	**1.43**	QB-01	**0.402**
Nickel	**7440-02-0**	**6.34**	GC-BS	**0.729**
Selenium	**7782-49-2**	**0.623**		**0.0100**
Thallium	**7440-28-0**	**0.00550**	QB-04	**6.59E-4**
Vanadium	**7440-62-2**	**8.29**		**0.0592**
Zinc	**7440-66-6**	**284**		**85.9**

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122024-HM
Matrix: Air
Lab ID: 4123049-05
Sample Volume: 1846.329 m³
Filter ID:
Sampled: 12/20/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/02/25 22:31

Comments: Q8529592 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.162**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.254**		**0.00826**
Barium	**7440-39-3**	**6.22**	QB-01	**0.943**
Beryllium	**7440-41-7**	**0.0116**		**0.00282**
Cadmium	7440-43-9	0.0113	U	0.0653
Chromium	**7440-47-3**	**2.46**		**1.95**
Cobalt	**7440-48-4**	**0.451**		**0.0384**
Copper	**7440-50-8**	**53.7**	QM-07	**2.32**
Lead	**7439-92-1**	**0.521**		**0.189**
Manganese	**7439-96-5**	**13.3**		**1.67**
Molybdenum	**7439-98-7**	**3.16**	QB-01, QM-07	**0.316**
Nickel	**7440-02-0**	**2.12**	GC-BS	**0.575**
Selenium	**7782-49-2**	**0.224**		**0.00790**
Thallium	**7440-28-0**	**0.00119**	QB-04	**5.19E-4**
Vanadium	**7440-62-2**	**2.65**		**0.0466**
Zinc	7440-66-6	15.6	U	67.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122024-HM
Matrix: Air
Lab ID: 4123049-06
Sample Volume: 2149.339 m³
Filter ID:
Sampled: 12/20/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 02:10

Comments: Q8529591 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.285**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.386**		**0.00709**
Barium	**7440-39-3**	**8.50**	QB-01	**0.810**
Beryllium	**7440-41-7**	**0.0170**		**0.00242**
Cadmium	7440-43-9	0.0127	U	0.0561
Chromium	**7440-47-3**	**3.02**		**1.67**
Cobalt	**7440-48-4**	**0.676**		**0.0330**
Copper	**7440-50-8**	**43.5**		**1.99**
Lead	**7439-92-1**	**0.710**		**0.162**
Manganese	**7439-96-5**	**18.3**		**1.43**
Molybdenum	**7439-98-7**	**2.42**	QB-01	**0.272**
Nickel	**7440-02-0**	**2.55**	GC-BS	**0.494**
Selenium	**7782-49-2**	**0.248**		**0.00678**
Thallium	**7440-28-0**	**0.00138**	QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**3.22**		**0.0400**
Zinc	7440-66-6	15.8	U	58.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122024-HM **Lab ID:** 4123049-07 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 1973.958 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:24

Comments: Q8529590 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0854**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.197**		**0.00772**
Barium	**7440-39-3**	**3.89**	QB-01	**0.882**
Beryllium	**7440-41-7**	**0.0194**		**0.00264**
Cadmium	7440-43-9	0.0137	U	0.0611
Chromium	**7440-47-3**	**2.75**		**1.82**
Cobalt	**7440-48-4**	**0.531**		**0.0359**
Copper	**7440-50-8**	**51.2**		**2.17**
Lead	**7439-92-1**	**0.303**		**0.176**
Manganese	**7439-96-5**	**12.8**		**1.56**
Molybdenum	**7439-98-7**	**2.46**	QB-01	**0.296**
Nickel	**7440-02-0**	**2.17**	GC-BS	**0.537**
Selenium	**7782-49-2**	**0.206**		**0.00739**
Thallium	**7440-28-0**	**9.70E-4**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**2.37**		**0.0436**
Zinc	7440-66-6	8.64	U	63.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-122024-HM **Lab ID:** 4123049-08 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 1337.4 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:38

Comments: Q8529589 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.218**	SL	**0.0470**
Arsenic	**7440-38-2**	**0.640**		**0.0114**
Barium	**7440-39-3**	**9.00**	QB-01	**1.30**
Beryllium	**7440-41-7**	**0.0461**		**0.00389**
Cadmium	7440-43-9	0.0617	U	0.0901
Chromium	**7440-47-3**	**6.23**		**2.69**
Cobalt	**7440-48-4**	**1.44**		**0.0530**
Copper	**7440-50-8**	**31.0**		**3.20**
Lead	**7439-92-1**	**1.35**		**0.260**
Manganese	**7439-96-5**	**45.7**		**2.30**
Molybdenum	**7439-98-7**	**1.79**	QB-01	**0.437**
Nickel	**7440-02-0**	**4.12**	GC-BS	**0.793**
Selenium	**7782-49-2**	**0.362**		**0.0109**
Thallium	**7440-28-0**	**0.00231**	QB-04	**7.17E-4**
Vanadium	**7440-62-2**	**4.73**		**0.0644**
Zinc	7440-66-6	18.0	U	93.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-122024-HM
Matrix: Air
Lab ID: 4123049-09
Sample Volume: 1846.329 m³
Filter ID:
Sampled: 12/20/24 00:00
Received: 12/30/24 12:14
Analysis Date: 01/03/25 02:52

Comments: Q8529586 FB - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0242	SL, U	0.0340
Arsenic	7440-38-2	0.00625	U	0.00826
Barium	**7440-39-3**	**1.44**	FB-01, QB-01	**0.943**
Beryllium	7440-41-7	1.28E-4	U	0.00282
Cadmium	7440-43-9	4.31E-4	U	0.0653
Chromium	7440-47-3	0.852	U	1.95
Cobalt	7440-48-4	0.0106	U	0.0384
Copper	7440-50-8	0.251	U	2.32
Lead	7439-92-1	0.0182	U	0.189
Manganese	7439-96-5	0.143	U	1.67
Molybdenum	7439-98-7	0.135	QB-01, U	0.316
Nickel	7440-02-0	0.430	GC-BS, U	0.575
Selenium	7782-49-2	0.00166	U	0.00790
Thallium	7440-28-0	1.51E-4	QB-04, U	5.19E-4
Vanadium	7440-62-2	ND	U	0.0466
Zinc	7440-66-6	1.91	U	67.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122124-HM
Matrix: Air
Lab ID: 4123049-10
Sample Volume: 1879.166 m³
Filter ID:
Sampled: 12/21/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 03:05

Comments: Q8529585 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.186**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.196**		**0.00811**
Barium	**7440-39-3**	**4.88**	QB-01	**0.926**
Beryllium	**7440-41-7**	**0.00768**		**0.00277**
Cadmium	7440-43-9	0.0107	U	0.0642
Chromium	**7440-47-3**	**1.95**		**1.91**
Cobalt	**7440-48-4**	**0.288**		**0.0377**
Copper	**7440-50-8**	**64.9**		**2.28**
Lead	**7439-92-1**	**0.557**		**0.185**
Manganese	**7439-96-5**	**8.62**		**1.64**
Molybdenum	**7439-98-7**	**4.94**	QB-01	**0.311**
Nickel	**7440-02-0**	**1.57**	GC-BS	**0.565**
Selenium	**7782-49-2**	**0.195**		**0.00776**
Thallium	**7440-28-0**	**0.00108**	QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0458**
Zinc	7440-66-6	11.0	U	66.5

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122124-HM
Matrix: Air
Lab ID: 4123049-11
Sample Volume: 2122.442 m³
Filter ID:
Sampled: 12/21/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/02/25 18:45

Comments: Q8529613 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.270**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.500**		**0.00718**
Barium	**7440-39-3**	**7.39**	QB-01	**0.820**
Beryllium	**7440-41-7**	**0.0137**		**0.00245**
Cadmium	7440-43-9	0.0192	U	0.0568
Chromium	**7440-47-3**	**2.37**		**1.69**
Cobalt	**7440-48-4**	**0.444**		**0.0334**
Copper	**7440-50-8**	**43.5**		**2.02**
Lead	**7439-92-1**	**1.12**		**0.164**
Manganese	**7439-96-5**	**14.0**		**1.45**
Molybdenum	**7439-98-7**	**2.15**	QB-01	**0.275**
Nickel	**7440-02-0**	**1.54**	GC-BS	**0.500**
Selenium	**7782-49-2**	**0.197**		**0.00687**
Thallium	**7440-28-0**	**0.00130**	QB-04	**4.52E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0406**
Zinc	7440-66-6	17.4	U	58.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122124-HM
Matrix: Air
Lab ID: 4123049-12
Sample Volume: 1818.227 m³
Filter ID:
Sampled: 12/21/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 03:19

Comments: Q8529612 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0817**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.158**		**0.00838**
Barium	**7440-39-3**	**3.52**	QB-01	**0.957**
Beryllium	**7440-41-7**	**0.0196**		**0.00286**
Cadmium	7440-43-9	0.0114	U	0.0663
Chromium	**7440-47-3**	**2.33**		**1.98**
Cobalt	**7440-48-4**	**0.361**		**0.0390**
Copper	**7440-50-8**	**52.4**		**2.35**
Lead	**7439-92-1**	**0.469**		**0.191**
Manganese	**7439-96-5**	**10.0**		**1.69**
Molybdenum	**7439-98-7**	**2.08**	QB-01	**0.321**
Nickel	**7440-02-0**	**1.69**	GC-BS	**0.583**
Selenium	**7782-49-2**	**0.182**		**0.00802**
Thallium	**7440-28-0**	**0.00102**	QB-04	**5.27E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0473**
Zinc	7440-66-6	9.12	U	68.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122124-HM
Matrix: Air
Lab ID: 4123049-13
Sample Volume: 1740.084 m³
Filter ID:
Sampled: 12/21/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 04:24

Comments: Q8529611 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.262**		**0.00876**
Barium	**7440-39-3**	**4.04**	QB-01	**1.00**
Beryllium	**7440-41-7**	**0.00934**		**0.00299**
Cadmium	7440-43-9	0.0144	U	0.0693
Chromium	**7440-47-3**	**2.38**		**2.07**
Cobalt	**7440-48-4**	**0.351**		**0.0408**
Copper	**7440-50-8**	**29.2**		**2.46**
Lead	**7439-92-1**	**0.442**		**0.200**
Manganese	**7439-96-5**	**10.2**		**1.77**
Molybdenum	**7439-98-7**	**1.79**	QB-01	**0.336**
Nickel	**7440-02-0**	**1.60**	GC-BS	**0.610**
Selenium	**7782-49-2**	**0.214**		**0.00838**
Thallium	**7440-28-0**	**0.00123**	QB-04	**5.51E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0495**
Zinc	7440-66-6	9.80	U	71.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122224-HM
Matrix: Air
Lab ID: 4123049-14
Sample Volume: 1802.7 m³
Filter ID:
Sampled: 12/22/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 04:38

Comments: Q8529608 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.225**		**0.00846**
Barium	**7440-39-3**	**4.71**	QB-01	**0.966**
Beryllium	**7440-41-7**	**0.00923**		**0.00289**
Cadmium	7440-43-9	0.00917	U	0.0669
Chromium	**7440-47-3**	**2.58**		**1.99**
Cobalt	**7440-48-4**	**0.373**		**0.0394**
Copper	**7440-50-8**	**51.3**		**2.37**
Lead	**7439-92-1**	**0.380**		**0.193**
Manganese	**7439-96-5**	**10.4**		**1.71**
Molybdenum	**7439-98-7**	**3.35**	QB-01	**0.324**
Nickel	**7440-02-0**	**1.63**	GC-BS	**0.588**
Selenium	**7782-49-2**	**0.233**		**0.00809**
Thallium	**7440-28-0**	**0.00148**	QB-04	**5.32E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0477**
Zinc	7440-66-6	8.32	U	69.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122224-HM
Matrix: Air
Lab ID: 4123049-15
Sample Volume: 2127.781 m³
Filter ID:
Sampled: 12/22/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 04:52

Comments: Q8529607 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.245**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.320**		**0.00716**
Barium	**7440-39-3**	**6.12**	QB-01	**0.818**
Beryllium	**7440-41-7**	**0.0116**		**0.00245**
Cadmium	7440-43-9	0.0113	U	0.0567
Chromium	**7440-47-3**	**2.29**		**1.69**
Cobalt	**7440-48-4**	**0.409**		**0.0333**
Copper	**7440-50-8**	**34.1**		**2.01**
Lead	**7439-92-1**	**0.691**		**0.164**
Manganese	**7439-96-5**	**12.4**		**1.45**
Molybdenum	**7439-98-7**	**2.10**	QB-01	**0.275**
Nickel	**7440-02-0**	**1.62**	GC-BS	**0.499**
Selenium	**7782-49-2**	**0.223**		**0.00685**
Thallium	**7440-28-0**	**0.00148**	QB-04	**4.50E-4**
Vanadium	**7440-62-2**	**2.01**		**0.0404**
Zinc	7440-66-6	13.8	U	58.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122224-HM
Matrix: Air
Lab ID: 4123049-16
Sample Volume: 1975.613 m³
Filter ID:
Sampled: 12/22/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 05:06

Comments: Q8529603 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0492**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.151**		**0.00772**
Barium	**7440-39-3**	**2.85**	QB-01	**0.881**
Beryllium	**7440-41-7**	**0.0135**		**0.00264**
Cadmium	7440-43-9	0.0138	U	0.0610
Chromium	**7440-47-3**	**1.89**		**1.82**
Cobalt	**7440-48-4**	**0.319**		**0.0359**
Copper	**7440-50-8**	**40.9**		**2.17**
Lead	**7439-92-1**	**0.299**		**0.176**
Manganese	**7439-96-5**	**8.74**		**1.56**
Molybdenum	**7439-98-7**	**2.31**	QB-01	**0.296**
Nickel	**7440-02-0**	**1.40**	GC-BS	**0.537**
Selenium	**7782-49-2**	**0.198**		**0.00738**
Thallium	**7440-28-0**	**0.00133**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0436**
Zinc	7440-66-6	6.51	U	63.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122224-HM
Matrix: Air
Lab ID: 4123049-17
Sample Volume: 1557.833 m³
Filter ID:
Sampled: 12/22/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 05:33

Comments: Q8529602 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.165**	SL	**0.0403**
Arsenic	**7440-38-2**	**0.710**		**0.00979**
Barium	**7440-39-3**	**5.28**	QB-01	**1.12**
Beryllium	**7440-41-7**	**0.0116**		**0.00334**
Cadmium	7440-43-9	0.0300	U	0.0774
Chromium	**7440-47-3**	**3.14**		**2.31**
Cobalt	**7440-48-4**	**0.392**		**0.0455**
Copper	**7440-50-8**	**33.4**		**2.75**
Lead	**7439-92-1**	**1.19**		**0.224**
Manganese	**7439-96-5**	**14.2**		**1.97**
Molybdenum	**7439-98-7**	**1.77**	QB-01	**0.375**
Nickel	**7440-02-0**	**1.82**	GC-BS	**0.681**
Selenium	**7782-49-2**	**0.252**		**0.00936**
Thallium	**7440-28-0**	**0.00168**	QB-04	**6.15E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0552**
Zinc	7440-66-6	15.6	U	80.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-122224-HM **Lab ID:** 4123049-18 **Sampled:** 12/22/24 00:00
Matrix: Air **Sample Volume:** 1802.7 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 05:47

Comments: Q8529625 FB - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0223	SL, U	0.0348
Arsenic	7440-38-2	0.00795	U	0.00846
Barium	**7440-39-3**	**1.24**	FB-01, QB-01	**0.966**
Beryllium	7440-41-7	1.02E-4	U	0.00289
Cadmium	7440-43-9	7.91E-4	U	0.0669
Chromium	7440-47-3	0.928	U	1.99
Cobalt	7440-48-4	0.00984	U	0.0394
Copper	7440-50-8	0.831	U	2.37
Lead	7439-92-1	0.0479	U	0.193
Manganese	7439-96-5	0.180	U	1.71
Molybdenum	7439-98-7	0.161	QB-01, U	0.324
Nickel	7440-02-0	0.384	GC-BS, U	0.588
Selenium	7782-49-2	ND	U	0.00809
Thallium	7440-28-0	1.22E-4	QB-04, U	5.32E-4
Vanadium	7440-62-2	0.0187	U	0.0477
Zinc	7440-66-6	3.22	U	69.3

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122324-HM
Matrix: Air
Lab ID: 4123049-19
Sample Volume: 1834.766 m³
Filter ID:
Sampled: 12/23/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 06:01

Comments: Q8529601 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.183**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.554**		**0.00831**
Barium	**7440-39-3**	**10.6**	QB-01	**0.949**
Beryllium	**7440-41-7**	**0.0250**		**0.00284**
Cadmium	7440-43-9	0.0330	U	0.0657
Chromium	**7440-47-3**	**4.23**		**1.96**
Cobalt	**7440-48-4**	**0.924**		**0.0387**
Copper	**7440-50-8**	**63.7**		**2.33**
Lead	**7439-92-1**	**1.11**		**0.190**
Manganese	**7439-96-5**	**30.1**		**1.68**
Molybdenum	**7439-98-7**	**2.83**	QB-01	**0.318**
Nickel	**7440-02-0**	**2.70**	GC-BS	**0.578**
Selenium	**7782-49-2**	**0.282**		**0.00795**
Thallium	**7440-28-0**	**0.00285**	QB-04	**5.22E-4**
Vanadium	**7440-62-2**	**3.37**		**0.0469**
Zinc	7440-66-6	23.1	U	68.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122324-HM
Matrix: Air
Lab ID: 4123049-20
Sample Volume: 2124.222 m³
Filter ID:
Sampled: 12/23/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 06:16

Comments: Q8529600 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.190**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.974**		**0.00718**
Barium	**7440-39-3**	**10.4**	QB-01	**0.820**
Beryllium	**7440-41-7**	**0.0243**		**0.00245**
Cadmium	7440-43-9	0.0538	U	0.0568
Chromium	**7440-47-3**	**4.43**		**1.69**
Cobalt	**7440-48-4**	**0.772**		**0.0334**
Copper	**7440-50-8**	**53.0**		**2.01**
Lead	**7439-92-1**	**2.49**		**0.164**
Manganese	**7439-96-5**	**25.0**		**1.45**
Molybdenum	**7439-98-7**	**2.10**	QB-01	**0.275**
Nickel	**7440-02-0**	**2.44**	GC-BS	**0.499**
Selenium	**7782-49-2**	**0.266**		**0.00686**
Thallium	**7440-28-0**	**0.00204**	QB-04	**4.51E-4**
Vanadium	**7440-62-2**	**2.86**		**0.0405**
Zinc	7440-66-6	24.0	U	58.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122324-HM
Matrix: Air
Lab ID: 4123049-21
Sample Volume: 1988.028 m³
Filter ID:
Sampled: 12/23/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 06:31

Comments: Q8529624 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0479**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.258**		**0.00767**
Barium	**7440-39-3**	**4.65**	QB-01	**0.876**
Beryllium	**7440-41-7**	**0.0290**		**0.00262**
Cadmium	7440-43-9	0.0117	U	0.0606
Chromium	**7440-47-3**	**3.14**		**1.81**
Cobalt	**7440-48-4**	**0.623**		**0.0357**
Copper	**7440-50-8**	**45.8**		**2.15**
Lead	**7439-92-1**	**0.475**		**0.175**
Manganese	**7439-96-5**	**17.6**		**1.55**
Molybdenum	**7439-98-7**	**1.97**	QB-01	**0.294**
Nickel	**7440-02-0**	**2.08**	GC-BS	**0.534**
Selenium	**7782-49-2**	**0.237**		**0.00733**
Thallium	**7440-28-0**	**0.00202**	QB-04	**4.82E-4**
Vanadium	**7440-62-2**	**2.18**		**0.0433**
Zinc	7440-66-6	10.2	U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122324-HM
Matrix: Air
Lab ID: 4123049-22
Sample Volume: 1535.973 m³
Filter ID:
Sampled: 12/23/24 23:59
Received: 12/30/24 12:14
Analysis Date: 01/03/25 07:58

Comments: Q8529622 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.164**	SL	**0.0409**
Arsenic	**7440-38-2**	**0.642**		**0.00993**
Barium	**7440-39-3**	**5.00**	QB-01	**1.13**
Beryllium	**7440-41-7**	**0.0141**		**0.00339**
Cadmium	7440-43-9	0.0372	U	0.0785
Chromium	**7440-47-3**	**2.91**		**2.34**
Cobalt	**7440-48-4**	**0.414**		**0.0462**
Copper	**7440-50-8**	**29.4**		**2.79**
Lead	**7439-92-1**	**1.12**		**0.227**
Manganese	**7439-96-5**	**15.4**		**2.00**
Molybdenum	**7439-98-7**	**1.64**	QB-01	**0.380**
Nickel	**7440-02-0**	**1.72**	GC-BS	**0.691**
Selenium	**7782-49-2**	**0.258**	R-F	**0.00949**
Thallium	**7440-28-0**	**0.00202**	QB-04	**6.24E-4**
Vanadium	**7440-62-2**	**1.94**		**0.0560**
Zinc	7440-66-6	15.8	U	81.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Blank (2501001-CCB1)				Prepared & Analyzed: 01/02/25						
Antimony	0.968		ng/l							
Arsenic	6.57		ng/l							
Barium	-0.894		ng/l							U
Beryllium	-1.04		ng/l							U
Cadmium	0.0957		ng/l							
Chromium	2.09		ng/l							
Cobalt	0.00375		ng/l							
Copper	56.8		ng/l							
Lead	2.57		ng/l							
Manganese	4.65		ng/l							
Molybdenum	17.6		ng/l							
Nickel	4.08		ng/l							
Selenium	-6.64		ng/l							U
Thallium	1.88		ng/l							QB-04
Vanadium	-97.7		ng/l							U
Zinc	6.04		ng/l							
Calibration Blank (2501001-CCB2)				Prepared & Analyzed: 01/02/25						
Antimony	0.758		ng/l							
Arsenic	12.0		ng/l							
Barium	-0.957		ng/l							U
Beryllium	-1.12		ng/l							U
Cadmium	0.123		ng/l							
Chromium	1.23		ng/l							
Cobalt	0.148		ng/l							
Copper	20.8		ng/l							
Lead	2.13		ng/l							
Manganese	1.72		ng/l							
Molybdenum	-2.78		ng/l							U
Nickel	5.47		ng/l							
Selenium	-6.23		ng/l							U
Thallium	1.56		ng/l							QB-04
Vanadium	-98.5		ng/l							U
Zinc	21.5		ng/l							
Calibration Blank (2501001-CCB3)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	0.752		ng/l							
Arsenic	5.11		ng/l							
Barium	-1.56		ng/l							U
Beryllium	-1.30		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Blank (2501001-CCB3) Contin				Prepared: 01/02/25 Analyzed: 01/03/25						
Cadmium	0.173		ng/l							
Chromium	2.23		ng/l							
Cobalt	0.104		ng/l							
Copper	20.4		ng/l							
Lead	1.99		ng/l							
Manganese	4.41		ng/l							
Molybdenum	-3.14		ng/l							U
Nickel	4.16		ng/l							
Selenium	-3.72		ng/l							U
Thallium	1.26		ng/l							QB-04
Vanadium	-106		ng/l							U
Zinc	44.7		ng/l							
Calibration Blank (2501001-CCB4)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	0.908		ng/l							
Arsenic	16.9		ng/l							
Barium	-1.22		ng/l							U
Beryllium	-1.74		ng/l							U
Cadmium	-0.0139		ng/l							U
Chromium	1.48		ng/l							
Cobalt	0.0870		ng/l							
Copper	16.0		ng/l							
Lead	1.81		ng/l							
Manganese	3.29		ng/l							
Molybdenum	-2.51		ng/l							U
Nickel	8.02		ng/l							
Selenium	5.22		ng/l							
Thallium	1.26		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	-4.15		ng/l							U
Calibration Blank (2501001-CCB5)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	1.21		ng/l							
Arsenic	15.1		ng/l							
Barium	-0.505		ng/l							U
Beryllium	-1.81		ng/l							U
Cadmium	0.0132		ng/l							
Chromium	0.786		ng/l							
Cobalt	0.202		ng/l							
Copper	21.8		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Blank (2501001-CCB5) Contin				Prepared: 01/02/25 Analyzed: 01/03/25						
Lead	2.61		ng/l							
Manganese	4.46		ng/l							
Molybdenum	-1.05		ng/l							U
Nickel	10.2		ng/l							
Selenium	-4.53		ng/l							U
Thallium	1.53		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	43.1		ng/l							
Calibration Blank (2501001-CCB6)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	1.07		ng/l							
Arsenic	9.10		ng/l							
Barium	0.0815		ng/l							
Beryllium	-2.06		ng/l							U
Cadmium	0.0502		ng/l							
Chromium	3.36		ng/l							
Cobalt	0.238		ng/l							
Copper	27.1		ng/l							
Lead	2.80		ng/l							
Manganese	6.90		ng/l							
Molybdenum	-0.172		ng/l							U
Nickel	5.55		ng/l							
Selenium	3.02		ng/l							
Thallium	1.62		ng/l							QB-04
Vanadium	-115		ng/l							U
Zinc	24.7		ng/l							
Calibration Blank (2501001-CCB7)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	1.10		ng/l							
Arsenic	4.72		ng/l							
Barium	-0.875		ng/l							U
Beryllium	-1.57		ng/l							U
Cadmium	0.173		ng/l							
Chromium	2.70		ng/l							
Cobalt	0.220		ng/l							
Copper	26.5		ng/l							
Lead	2.07		ng/l							
Manganese	5.49		ng/l							
Molybdenum	-3.55		ng/l							U
Nickel	7.30		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Blank (2501001-CCB7) Contin				Prepared: 01/02/25 Analyzed: 01/03/25						
Selenium	-1.18		ng/l							U
Thallium	1.44		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	34.8		ng/l							
Calibration Check (2501001-CCV1)				Prepared & Analyzed: 01/02/25						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4730		ng/l	5000.0		94.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	505		ng/l	500.00		101	90-110			QB-04
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2501001-CCV2)				Prepared & Analyzed: 01/02/25						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4760		ng/l	5000.0		95.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51500		ng/l	50000		103	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	496		ng/l	500.00		99.1	90-110			QB-04
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Check (2501001-CCV3)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4790		ng/l	5000.0		95.9	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	261000		ng/l	240000		109	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	524000		ng/l	500000		105	90-110			
Molybdenum	52900		ng/l	50000		106	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			QB-04
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2501001-CCV4)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.5	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	259000		ng/l	240000		108	90-110			
Cobalt	53000		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		109	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	528000		ng/l	500000		106	90-110			
Molybdenum	53700		ng/l	50000		107	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			QB-04
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2501001-CCV5)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	21100		ng/l	20000		105	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Check (2501001-CCV5) Contin				Prepared: 01/02/25 Analyzed: 01/03/25						
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	53300		ng/l	50000		107	90-110			
Copper	2.18E6		ng/l	2.0000E6		109	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	54600		ng/l	50000		109	90-110			
Nickel	129000		ng/l	120000		108	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	503		ng/l	500.00		101	90-110			QB-04
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2501001-CCV6)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	216000		ng/l	200000		108	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			
Lead	211000		ng/l	200000		105	90-110			
Manganese	538000		ng/l	500000		108	90-110			
Molybdenum	54900		ng/l	50000		110	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	502		ng/l	500.00		100	90-110			QB-04
Vanadium	21400		ng/l	20000		107	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2501001-CCV7)				Prepared: 01/02/25 Analyzed: 01/03/25						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	263000		ng/l	240000		110	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Calibration Check (2501001-CCV7) Contin				Prepared: 01/02/25 Analyzed: 01/03/25						
Lead	208000		ng/l	200000		104	90-110			
Manganese	539000		ng/l	500000		108	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			QB-04
Vanadium	21500		ng/l	20000		107	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2501001-HCV1)				Prepared & Analyzed: 01/02/25						
Antimony	41000		ng/l	40000		102	95-105			
Arsenic	40700		ng/l	40000		102	95-105			
Barium	405000		ng/l	400000		101	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	40500		ng/l	40000		101	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.03E6		ng/l	4.0000E6		101	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	103000		ng/l	100000		103	95-105			
Nickel	243000		ng/l	240000		101	95-105			
Selenium	40900		ng/l	40000		102	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			QB-04
Vanadium	40600		ng/l	40000		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2501001-ICB1)				Prepared & Analyzed: 01/02/25						
Antimony	0.927		ng/l							
Arsenic	4.19		ng/l							
Barium	-1.93		ng/l							U
Beryllium	-0.337		ng/l							U
Cadmium	0.129		ng/l							
Chromium	1.00		ng/l							
Cobalt	0.0911		ng/l							
Copper	67.8		ng/l							
Lead	2.54		ng/l							
Manganese	4.76		ng/l							
Molybdenum	1.24		ng/l							
Nickel	2.71		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Initial Cal Blank (2501001-ICB1) Continu				Prepared & Analyzed: 01/02/25						
Selenium	-2.14		ng/l							U
Thallium	1.68		ng/l							QB-04
Vanadium	-101		ng/l							U
Zinc	9.47		ng/l							
Initial Cal Check (2501001-ICV1)				Prepared & Analyzed: 01/02/25						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49000		ng/l	50000		98.1	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	492000		ng/l	500000		98.3	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	507		ng/l	500.00		101	90-110			QB-04
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2501001-IFA1)				Prepared & Analyzed: 01/02/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	317000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			QB-04, U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501001 - B4L2001										
Interference Check B (2501001-IFB1)				Prepared & Analyzed: 01/02/25						
Antimony	20800		ng/l	20000		104	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4860		ng/l	5000.0		97.2	80-120			
Cadmium	20400		ng/l	20000		102	80-120			
Chromium	246000		ng/l	240000		102	80-120			
Cobalt	49800		ng/l	50000		99.7	80-120			
Copper	1.94E6		ng/l	2.0000E6		96.9	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	497000		ng/l	500000		99.3	80-120			
Molybdenum	370000		ng/l	350000		106	80-120			
Nickel	118000		ng/l	120000		98.3	80-120			
Selenium	19500		ng/l	20000		97.5	80-120			
Thallium	527		ng/l	500.00		105	80-120			QB-04
Vanadium	19400		ng/l	20000		97.1	80-120			
Zinc	478000		ng/l	500000		95.7	80-120			
Batch B4L3104 - ICP-MS Extraction										
Blank (B4L3104-BLK1)				Prepared: 12/31/24 Analyzed: 01/03/25						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							QB-01, U
Nickel	ND	0.652	ng/m³ Air							GC-BS, U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4L3104-BS1)				Prepared: 12/31/24 Analyzed: 01/02/25						
Antimony	0.707	0.0386	ng/m³ Air	1.3829		51.1	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	29.5	1.07	ng/m³ Air	27.658		107	80-120			QB-01

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
LCS (B4L3104-BS1) Continued					Prepared: 12/31/24 Analyzed: 01/02/25					
Beryllium	1.30	0.00320	ng/m³ Air	1.3829		94.1	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	16.4	2.21	ng/m³ Air	13.829		119	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	30.2	2.63	ng/m³ Air	27.658		109	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.75	1.89	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.66	0.359	ng/m³ Air	1.3829		120	80-120			QB-01
Nickel	4.45	0.652	ng/m³ Air	2.7658		161	80-120			GC-BS
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			
Thallium	0.143	5.89E-4	ng/m³ Air	0.13829		103	80-120			QB-04
Vanadium	2.85	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	91.2	76.8	ng/m³ Air	82.975		110	80-120			
LCS (B4L3104-BS2)					Prepared: 12/31/24 Analyzed: 01/02/25					
Antimony	0.792	0.0386	ng/m³ Air	1.3829		57.2	80-120			SL
Arsenic	2.81	0.00937	ng/m³ Air	2.7658		102	80-120			
Barium	30.7	1.07	ng/m³ Air	27.658		111	80-120			QB-01
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.4	80-120			
Cadmium	1.44	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	16.7	2.21	ng/m³ Air	13.829		121	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	30.4	2.63	ng/m³ Air	27.658		110	80-120			
Lead	14.2	0.214	ng/m³ Air	13.829		103	80-120			
Manganese	8.86	1.89	ng/m³ Air	8.2975		107	80-120			
Molybdenum	1.69	0.359	ng/m³ Air	1.3829		122	80-120			QB-01
Nickel	3.46	0.652	ng/m³ Air	2.7658		125	80-120			GC-BS
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.4	80-120			
Thallium	0.145	5.89E-4	ng/m³ Air	0.13829		105	80-120			QB-04
Vanadium	2.90	0.0529	ng/m³ Air	2.7658		105	80-120			
Zinc	91.1	76.8	ng/m³ Air	82.975		110	80-120			
LCS (B4L3104-BS3)					Prepared: 12/31/24 Analyzed: 01/02/25					
Antimony	1.39	0.0386	ng/m³ Air	1.3829		101	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			QB-01
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		92.1	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
LCS (B4L3104-BS3) Continued					Prepared: 12/31/24 Analyzed: 01/02/25					
Copper	29.3	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.61	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		105	80-120			QB-01
Nickel	2.86	0.652	ng/m³ Air	2.7658		103	80-120			GC-BS
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.143	5.89E-4	ng/m³ Air	0.13829		104	80-120			QB-04
Vanadium	2.84	0.0529	ng/m³ Air	2.7658		103	80-120			
Zinc	86.0	76.8	ng/m³ Air	82.975		104	80-120			
LCS (B4L3104-BS4)					Prepared: 12/31/24 Analyzed: 01/02/25					
Antimony	1.41	0.0386	ng/m³ Air	1.3829		102	80-120			SL
Arsenic	2.84	0.00937	ng/m³ Air	2.7658		103	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			QB-01
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		91.6	80-120			
Cadmium	1.45	0.0741	ng/m³ Air	1.3829		105	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		107	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.79	1.89	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.47	0.359	ng/m³ Air	1.3829		106	80-120			QB-01
Nickel	2.90	0.652	ng/m³ Air	2.7658		105	80-120			GC-BS
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.145	5.89E-4	ng/m³ Air	0.13829		105	80-120			QB-04
Vanadium	2.89	0.0529	ng/m³ Air	2.7658		104	80-120			
Zinc	87.5	76.8	ng/m³ Air	82.975		105	80-120			
Duplicate (B4L3104-DUP1)		**Source: 4123049-11**			Prepared: 12/31/24 Analyzed: 01/02/25					
Antimony	0.274	0.0296	ng/m³ Air		0.270			1.47	10	SL
Arsenic	0.512	0.00718	ng/m³ Air		0.500			2.32	10	
Barium	7.76	0.820	ng/m³ Air		7.39			4.81	10	QB-01
Beryllium	0.0137	0.00245	ng/m³ Air		0.0137			0.383	10	
Cadmium	ND	0.0568	ng/m³ Air		ND				10	U
Chromium	2.77	1.69	ng/m³ Air		2.37			15.8	10	
Cobalt	0.468	0.0334	ng/m³ Air		0.444			5.38	10	
Copper	45.0	2.02	ng/m³ Air		43.5			3.45	10	
Lead	1.16	0.164	ng/m³ Air		1.12			3.20	10	
Manganese	14.4	1.45	ng/m³ Air		14.0			3.07	10	
Molybdenum	2.12	0.275	ng/m³ Air		2.15			1.41	10	QB-01

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Duplicate (B4L3104-DUP1) Continued			**Source: 4123049-11**		Prepared: 12/31/24		Analyzed: 01/02/25			
Nickel	1.81	0.500	ng/m³ Air		1.54			16.3	10	GC-BS
Selenium	0.206	0.00687	ng/m³ Air		0.197			4.38	10	
Thallium	0.00132	4.52E-4	ng/m³ Air		0.00130			1.53	10	QB-04
Vanadium	1.92	0.0406	ng/m³ Air		1.89			1.94	10	
Zinc	ND	58.9	ng/m³ Air		ND				10	U
Duplicate (B4L3104-DUP2)			**Source: 4123049-05**		Prepared: 12/31/24		Analyzed: 01/02/25			
Antimony	0.172	0.0340	ng/m³ Air		0.162			5.62	10	SL
Arsenic	0.243	0.00826	ng/m³ Air		0.254			4.28	10	
Barium	6.03	0.943	ng/m³ Air		6.22			2.95	10	QB-01
Beryllium	0.0122	0.00282	ng/m³ Air		0.0116			5.18	10	
Cadmium	ND	0.0653	ng/m³ Air		ND				10	U
Chromium	2.48	1.95	ng/m³ Air		2.46			0.829	10	
Cobalt	0.462	0.0384	ng/m³ Air		0.451			2.30	10	
Copper	51.6	2.32	ng/m³ Air		53.7			4.14	10	
Lead	0.479	0.189	ng/m³ Air		0.521			8.53	10	
Manganese	13.5	1.67	ng/m³ Air		13.3			1.22	10	
Molybdenum	3.12	0.316	ng/m³ Air		3.16			1.00	10	QB-01
Nickel	2.04	0.575	ng/m³ Air		2.12			3.43	10	GC-BS
Selenium	0.230	0.00790	ng/m³ Air		0.224			2.65	10	
Thallium	0.00117	5.19E-4	ng/m³ Air		0.00119			1.28	10	QB-04
Vanadium	2.62	0.0466	ng/m³ Air		2.65			1.17	10	
Zinc	ND	67.7	ng/m³ Air		ND				10	U
Duplicate (B4L3104-DUP3)			**Source: 4123049-16**		Prepared: 12/31/24		Analyzed: 01/03/25			
Antimony	0.0506	0.0318	ng/m³ Air		0.0492			2.72	10	SL
Arsenic	0.154	0.00772	ng/m³ Air		0.151			2.16	10	
Barium	2.94	0.881	ng/m³ Air		2.85			3.33	10	QB-01
Beryllium	0.0133	0.00264	ng/m³ Air		0.0135			2.17	10	
Cadmium	ND	0.0610	ng/m³ Air		ND				10	U
Chromium	1.93	1.82	ng/m³ Air		1.89			2.13	10	
Cobalt	0.326	0.0359	ng/m³ Air		0.319			2.29	10	
Copper	41.8	2.17	ng/m³ Air		40.9			2.41	10	
Lead	0.306	0.176	ng/m³ Air		0.299			2.15	10	
Manganese	8.97	1.56	ng/m³ Air		8.74			2.66	10	
Molybdenum	2.38	0.296	ng/m³ Air		2.31			3.04	10	QB-01
Nickel	1.43	0.537	ng/m³ Air		1.40			2.18	10	GC-BS
Selenium	0.211	0.00738	ng/m³ Air		0.198			5.94	10	
Thallium	0.00137	4.85E-4	ng/m³ Air		0.00133			3.54	10	QB-04
Vanadium	1.51	0.0436	ng/m³ Air		1.48			2.09	10	

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Duplicate (B4L3104-DUP3) Continued		**Source: 4123049-16**		Prepared: 12/31/24	Analyzed: 01/03/25					
Zinc	ND	63.2	ng/m³ Air		ND				10	U
Duplicate (B4L3104-DUP4)		**Source: 4123049-22**		Prepared: 12/31/24	Analyzed: 01/03/25					
Antimony	0.165	0.0409	ng/m³ Air		0.164			0.522	10	SL
Arsenic	0.640	0.00993	ng/m³ Air		0.642			0.315	10	
Barium	5.04	1.13	ng/m³ Air		5.00			0.610	10	QB-01
Beryllium	0.0138	0.00339	ng/m³ Air		0.0141			2.35	10	
Cadmium	ND	0.0785	ng/m³ Air		ND				10	U
Chromium	2.92	2.34	ng/m³ Air		2.91			0.528	10	
Cobalt	0.415	0.0462	ng/m³ Air		0.414			0.328	10	
Copper	29.8	2.79	ng/m³ Air		29.4			1.46	10	
Lead	1.11	0.227	ng/m³ Air		1.12			0.891	10	
Manganese	15.4	2.00	ng/m³ Air		15.4			0.128	10	
Molybdenum	1.63	0.380	ng/m³ Air		1.64			0.382	10	QB-01
Nickel	1.75	0.691	ng/m³ Air		1.72			1.49	10	GC-BS
Selenium	0.232	0.00949	ng/m³ Air		0.258			10.9	10	R-F
Thallium	0.00218	6.24E-4	ng/m³ Air		0.00202			7.86	10	QB-04
Vanadium	1.95	0.0560	ng/m³ Air		1.94			0.0531	10	
Zinc	ND	81.4	ng/m³ Air		ND				10	U
Matrix Spike (B4L3104-MS1)		**Source: 4123049-11**		Prepared: 12/31/24	Analyzed: 01/02/25					
Antimony	0.892	0.0296	ng/m³ Air	1.0601	0.270	58.7	80-120			SL
Arsenic	2.58	0.00718	ng/m³ Air	2.1202	0.500	98.0	80-120			
Barium	29.1	0.820	ng/m³ Air	21.202	7.39	102	80-120			QB-01
Beryllium	0.990	0.00245	ng/m³ Air	1.0601	0.0137	92.1	80-120			
Cadmium	1.10	0.0568	ng/m³ Air	1.0601	ND	104	80-120			
Chromium	13.4	1.69	ng/m³ Air	10.601	2.37	104	80-120			
Cobalt	1.51	0.0334	ng/m³ Air	1.0601	0.444	100	80-120			
Copper	65.8	2.02	ng/m³ Air	21.202	43.5	106	80-120			
Lead	11.9	0.164	ng/m³ Air	10.601	1.12	102	80-120			
Manganese	20.0	1.45	ng/m³ Air	6.3606	14.0	94.3	80-120			
Molybdenum	3.23	0.275	ng/m³ Air	1.0601	2.15	102	80-120			QB-01
Nickel	3.75	0.500	ng/m³ Air	2.1202	1.54	104	80-120			GC-BS
Selenium	2.27	0.00687	ng/m³ Air	2.1202	0.197	97.7	80-120			
Thallium	0.107	4.52E-4	ng/m³ Air	0.10601	0.00130	99.8	80-120			QB-04
Vanadium	3.95	0.0406	ng/m³ Air	2.1202	1.89	97.4	80-120			
Zinc	82.8	58.9	ng/m³ Air	63.606	ND	130	80-120			
Matrix Spike (B4L3104-MS2)		**Source: 4123049-05**		Prepared: 12/31/24	Analyzed: 01/02/25					
Antimony	0.834	0.0340	ng/m³ Air	1.2186	0.162	55.1	80-120			SL
Arsenic	2.63	0.00826	ng/m³ Air	2.4373	0.254	97.4	80-120			

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Matrix Spike (B4L3104-MS2) Continued Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25										
Barium	31.4	0.943	ng/m³ Air	24.373	6.22	103	80-120			QB-01
Beryllium	1.15	0.00282	ng/m³ Air	1.2186	0.0116	93.3	80-120			
Cadmium	1.25	0.0653	ng/m³ Air	1.2186	ND	103	80-120			
Chromium	15.3	1.95	ng/m³ Air	12.186	2.46	105	80-120			
Cobalt	1.66	0.0384	ng/m³ Air	1.2186	0.451	99.3	80-120			
Copper	81.7	2.32	ng/m³ Air	24.373	53.7	115	80-120			
Lead	12.8	0.189	ng/m³ Air	12.186	0.521	101	80-120			
Manganese	20.7	1.67	ng/m³ Air	7.3118	13.3	101	80-120			
Molybdenum	4.58	0.316	ng/m³ Air	1.2186	3.16	117	80-120			QB-01
Nickel	4.45	0.575	ng/m³ Air	2.4373	2.12	95.9	80-120			GC-BS
Selenium	2.65	0.00790	ng/m³ Air	2.4373	0.224	99.3	80-120			
Thallium	0.123	5.19E-4	ng/m³ Air	0.12186	0.00119	99.9	80-120			QB-04
Vanadium	5.05	0.0466	ng/m³ Air	2.4373	2.65	98.4	80-120			
Zinc	89.9	67.7	ng/m³ Air	73.118	ND	123	80-120			
Matrix Spike Dup (B4L3104-MSD1) Source: 4123049-11 Prepared: 12/31/24 Analyzed: 01/02/25										
Antimony	0.856	0.0296	ng/m³ Air	1.0601	0.270	55.2	80-120	4.14	20	SL
Arsenic	2.63	0.00718	ng/m³ Air	2.1202	0.500	100	80-120	1.86	20	
Barium	29.2	0.820	ng/m³ Air	21.202	7.39	103	80-120	0.361	20	QB-01
Beryllium	0.983	0.00245	ng/m³ Air	1.0601	0.0137	91.5	80-120	0.685	20	
Cadmium	1.10	0.0568	ng/m³ Air	1.0601	ND	104	80-120	0.552	20	
Chromium	13.4	1.69	ng/m³ Air	10.601	2.37	104	80-120	0.208	20	
Cobalt	1.51	0.0334	ng/m³ Air	1.0601	0.444	101	80-120	0.359	20	
Copper	67.5	2.02	ng/m³ Air	21.202	43.5	113	80-120	2.49	20	
Lead	11.9	0.164	ng/m³ Air	10.601	1.12	101	80-120	0.644	20	
Manganese	20.0	1.45	ng/m³ Air	6.3606	14.0	95.2	80-120	0.302	20	
Molybdenum	3.35	0.275	ng/m³ Air	1.0601	2.15	113	80-120	3.57	20	QB-01
Nickel	3.85	0.500	ng/m³ Air	2.1202	1.54	109	80-120	2.56	20	GC-BS
Selenium	2.30	0.00687	ng/m³ Air	2.1202	0.197	99.2	80-120	1.41	20	
Thallium	0.107	4.52E-4	ng/m³ Air	0.10601	0.00130	99.7	80-120	0.105	20	QB-04
Vanadium	3.97	0.0406	ng/m³ Air	2.1202	1.89	98.2	80-120	0.423	20	
Zinc	81.6	58.9	ng/m³ Air	63.606	ND	128	80-120	1.48	20	
Matrix Spike Dup (B4L3104-MSD2) Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25										
Antimony	0.869	0.0340	ng/m³ Air	1.2186	0.162	58.0	80-120	4.12	20	SL
Arsenic	2.67	0.00826	ng/m³ Air	2.4373	0.254	99.1	80-120	1.58	20	
Barium	31.8	0.943	ng/m³ Air	24.373	6.22	105	80-120	1.20	20	QB-01
Beryllium	1.12	0.00282	ng/m³ Air	1.2186	0.0116	90.8	80-120	2.64	20	
Cadmium	1.27	0.0653	ng/m³ Air	1.2186	ND	104	80-120	1.54	20	
Chromium	15.4	1.95	ng/m³ Air	12.186	2.46	106	80-120	0.591	20	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Matrix Spike Dup (B4L3104-MSD2) Contir			**Source: 4123049-05**			Prepared: 12/31/24		Analyzed: 01/02/25		
Cobalt	1.68	0.0384	ng/m³ Air	1.2186	0.451	101	80-120	1.05	20	
Copper	86.3	2.32	ng/m³ Air	24.373	53.7	133	80-120	5.47	20	QM-07
Lead	13.1	0.189	ng/m³ Air	12.186	0.521	103	80-120	2.25	20	
Manganese	20.6	1.67	ng/m³ Air	7.3118	13.3	100	80-120	0.518	20	
Molybdenum	4.96	0.316	ng/m³ Air	1.2186	3.16	148	80-120	8.04	20	QB-01, QM-07
Nickel	4.54	0.575	ng/m³ Air	2.4373	2.12	99.6	80-120	2.00	20	GC-BS
Selenium	2.67	0.00790	ng/m³ Air	2.4373	0.224	100	80-120	0.947	20	
Thallium	0.126	5.19E-4	ng/m³ Air	0.12186	0.00119	102	80-120	2.31	20	QB-04
Vanadium	5.11	0.0466	ng/m³ Air	2.4373	2.65	101	80-120	1.18	20	
Zinc	90.7	67.7	ng/m³ Air	73.118	ND	124	80-120	0.858	20	
Post Spike (B4L3104-PS1)			**Source: 4123049-11**			Prepared: 12/31/24		Analyzed: 01/02/25		
Antimony	0.480	0.0296	ng/m³ Air	0.21202	0.270	99.0	75-125			SL
Arsenic	1.53	0.00718	ng/m³ Air	1.0601	0.500	97.0	75-125			
Barium	9.52	0.820	ng/m³ Air	2.1202	7.39	101	75-125			QB-01
Beryllium	0.210	0.00245	ng/m³ Air	0.21202	0.0137	92.6	75-125			
Cadmium	0.125	0.0568	ng/m³ Air	0.10601	ND	118	75-125			
Chromium	3.43	1.69	ng/m³ Air	1.0601	2.37	101	75-125			
Cobalt	0.657	0.0334	ng/m³ Air	0.21202	0.444	101	75-125			
Copper	54.1	2.02	ng/m³ Air	10.601	43.5	100	75-125			
Lead	22.5	0.164	ng/m³ Air	21.202	1.12	101	75-125			
Manganese	16.1	1.45	ng/m³ Air	2.1202	14.0	98.1	75-125			
Molybdenum	3.19	0.275	ng/m³ Air	1.0601	2.15	97.7	75-125			QB-01
Nickel	3.68	0.500	ng/m³ Air	2.1202	1.54	101	75-125			GC-BS
Selenium	1.20	0.00687	ng/m³ Air	1.0601	0.197	94.6	75-125			
Thallium	0.0541	4.52E-4	ng/m³ Air	5.3005E-2	0.00130	99.5	75-125			QB-04
Vanadium	2.91	0.0406	ng/m³ Air	1.0601	1.89	96.3	75-125			
Zinc	ND	58.9	ng/m³ Air	21.202	ND		75-125			U
Post Spike (B4L3104-PS2)			**Source: 4123049-05**			Prepared: 12/31/24		Analyzed: 01/02/25		
Antimony	0.403	0.0340	ng/m³ Air	0.24373	0.162	98.6	75-125			SL
Arsenic	1.42	0.00826	ng/m³ Air	1.2186	0.254	95.6	75-125			
Barium	8.72	0.943	ng/m³ Air	2.4373	6.22	103	75-125			QB-01
Beryllium	0.232	0.00282	ng/m³ Air	0.24373	0.0116	90.6	75-125			
Cadmium	0.134	0.0653	ng/m³ Air	0.12186	ND	110	75-125			
Chromium	3.73	1.95	ng/m³ Air	1.2186	2.46	104	75-125			
Cobalt	0.699	0.0384	ng/m³ Air	0.24373	0.451	102	75-125			
Copper	67.1	2.32	ng/m³ Air	12.186	53.7	109	75-125			
Lead	25.2	0.189	ng/m³ Air	24.373	0.521	101	75-125			
Manganese	15.8	1.67	ng/m³ Air	2.4373	13.3	103	75-125			

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Post Spike (B4L3104-PS2) Continued		**Source: 4123049-05**		Prepared: 12/31/24		Analyzed: 01/02/25				
Molybdenum	4.41	0.316	ng/m³ Air	1.2186	3.16	103	75-125			QB-01
Nickel	4.63	0.575	ng/m³ Air	2.4373	2.12	103	75-125			GC-BS
Selenium	1.38	0.00790	ng/m³ Air	1.2186	0.224	94.8	75-125			
Thallium	0.0619	5.19E-4	ng/m³ Air	6.0932E-2	0.00119	99.6	75-125			QB-04
Vanadium	3.87	0.0466	ng/m³ Air	1.2186	2.65	100	75-125			
Zinc	ND	67.7	ng/m³ Air	24.373	ND		75-125			U
Dilution Check (B4L3104-SRL1)		**Source: 4123049-11**		Prepared: 12/31/24		Analyzed: 01/02/25				
Antimony	0.262	0.0296	ng/m³ Air		0.270			3.13	10	SL
Arsenic	0.496	0.00718	ng/m³ Air		0.500			0.828	10	
Barium	7.36	0.820	ng/m³ Air		7.39			0.464	10	QB-01
Beryllium	0.0130	0.00245	ng/m³ Air		0.0137			4.85	10	
Cadmium	ND	0.0568	ng/m³ Air		ND				10	U
Chromium	2.39	1.69	ng/m³ Air		2.37			0.890	10	
Cobalt	0.453	0.0334	ng/m³ Air		0.444			1.97	10	
Copper	44.0	2.02	ng/m³ Air		43.5			1.28	10	
Lead	1.10	0.164	ng/m³ Air		1.12			1.67	10	
Manganese	14.2	1.45	ng/m³ Air		14.0			1.41	10	
Molybdenum	2.14	0.275	ng/m³ Air		2.15			0.440	10	QB-01
Nickel	1.60	0.500	ng/m³ Air		1.54			3.79	10	GC-BS
Selenium	0.189	0.00687	ng/m³ Air		0.197			4.14	10	
Thallium	0.00356	4.52E-4	ng/m³ Air		0.00130			92.8	10	QB-04
Vanadium	1.83	0.0406	ng/m³ Air		1.89			3.08	10	
Zinc	ND	58.9	ng/m³ Air		ND				10	U
Dilution Check (B4L3104-SRL2)		**Source: 4123049-05**		Prepared: 12/31/24		Analyzed: 01/02/25				
Antimony	0.162	0.0340	ng/m³ Air		0.162			0.340	10	SL
Arsenic	0.278	0.00826	ng/m³ Air		0.254			9.08	10	
Barium	6.29	0.943	ng/m³ Air		6.22			1.18	10	QB-01
Beryllium	0.0107	0.00282	ng/m³ Air		0.0116			7.75	10	
Cadmium	ND	0.0653	ng/m³ Air		ND				10	U
Chromium	3.70	1.95	ng/m³ Air		2.46			40.3	10	
Cobalt	0.568	0.0384	ng/m³ Air		0.451			23.0	10	
Copper	55.2	2.32	ng/m³ Air		53.7			2.70	10	
Lead	0.518	0.189	ng/m³ Air		0.521			0.702	10	
Manganese	14.5	1.67	ng/m³ Air		13.3			8.33	10	
Molybdenum	3.23	0.316	ng/m³ Air		3.16			2.16	10	QB-01
Nickel	5.61	0.575	ng/m³ Air		2.12			90.5	10	GC-BS
Selenium	0.231	0.00790	ng/m³ Air		0.224			3.19	10	
Thallium	0.00320	5.19E-4	ng/m³ Air		0.00119			91.6	10	QB-04

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4L3104 - ICP-MS Extraction										
Dilution Check (B4L3104-SRL2) Continue				**Source: 4123049-05**			Prepared: 12/31/24 Analyzed: 01/02/25			
Vanadium	2.63	0.0466	ng/m³ Air		2.65			0.806	10	
Zinc	ND	67.7	ng/m³ Air		ND				10	U

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SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
R-F	Replicate exceeds DQO criteria.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/10/2025 and Shanna Vasser 01/14/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/19/2024 – 12/22/2024
Report No: 4123049

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for barium in both MFL-FB01-122024-HM and MFL-FB01-122224-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

December 26, 2024 through January 1, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from December 26, 2024 through January 1, 2025, at the community locations listed below and shown on Figure 1.

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from December 26, 2024 through January 1, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at Opukea Townhomes (AM-05) and Lahaina Pump Station #6 (AM-08) for one hour on December 27, resulting in the collection of 23 hours of PM_{10} data.
- Because of equipment maintenance, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) Lahaina Intermediate School (AM-03) for 1 hour on December 27, resulting in the collection of 23 hours of PM_{10} data.

The equipment fault at Opukea Townhomes and Lahaina Pump Station #6 on December 27 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 23-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 14 samples for asbestos fibers were collected during this reporting period. Asbestos samples were not collected at Opukea Townhomes (AM-05) and Lahaina Intermediate School (AM-03) on December 30 because of a sampling cassette shortage related to the lab. With the approval of the HDOH, Tetra Tech field teams were not dispatched on December 25 in observance of the Christmas Day holiday or on December 30, 31 or January 1 in observance of the New Years Holiday. The field teams did not deploy air samples at any of the four air sampling stations on December 25, 30, 31 or January 1. Subsequently, samples were not collected on December 26, 31, or January 1 because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour and were generally from a southeasterly direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

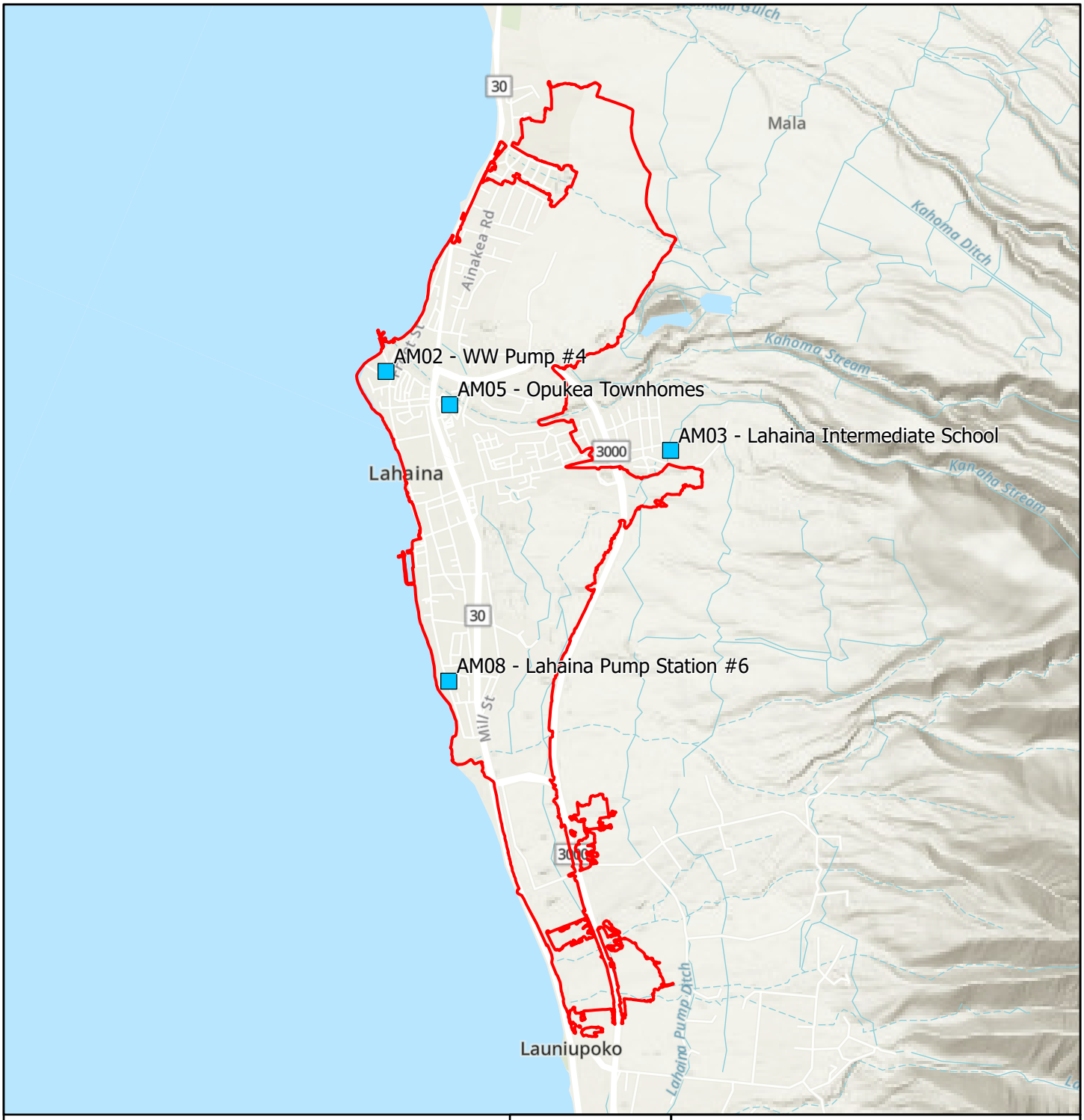
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
December 26, 2024 through January 1, 2025

Screening Level		TWA Results 150 ($\mu g/m^3$)
12/26/2024	Opukea Townhomes (AM-05)	15
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	19
	Lahaina Pump Station #6 (AM-08)	15
12/27/2024	Opukea Townhomes (AM-05)	17*
	WW Pump Station #4 (AM-02)	17**
	Lahaina Intermediate School (AM-03)	13**
	Lahaina Pump Station #6 (AM-08)	13*
12/28/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	26
	Lahaina Pump Station #6 (AM-08)	11
12/29/2024	Opukea Townhomes (AM-05)	6.5
	WW Pump Station #4 (AM-02)	5.0
	Lahaina Intermediate School (AM-03)	28
	Lahaina Pump Station #6 (AM-08)	5.6
12/30/2024	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	31
	Lahaina Pump Station #6 (AM-08)	10
12/31/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	26
	Lahaina Pump Station #6 (AM-08)	10
1/1/2025	Opukea Townhomes (AM-05)	17
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	29
	Lahaina Pump Station #6 (AM-08)	9.4

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault
** Data provided are from a reduced (23-hr) TWA calculation because of equipment maintenance

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 26, 2024 through January 1, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
12/26/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
12/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.000160	0.000290	0.00588	0.0000136	0.0000433	0.00249	0.000419	0.0438	0.000648	0.0132	0.00237	0.00150	0.000613	0.00000773	0.00175	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000305	0.000427	0.0107	0.0000210	0.0000450	0.00320	0.000690	0.0425	0.00134	0.0214	0.00216	0.00216	0.000633	0.00000741	0.00264	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000767	0.000227	0.00351	0.0000154	0.0000396	0.00236	0.000380	0.0543	0.000468	0.0102	0.00221	0.00141	0.000576	0.00000686	0.00143	ND
	Lahaina Pump Station #6 (AM-08)	<0.0030	0.000156	0.000335	0.00444	0.00000874	0.0000448	ND	0.000261	0.0290	0.000587	0.00836	0.00144	0.00111	0.000644	0.00000764	0.00113	ND
12/28/2024	Opukea Townhomes (AM-05)	<0.0024	0.000141	0.000405	0.00749	0.0000230	0.0000669	0.00345	0.000763	0.0514	0.000669	0.0253	0.00291	0.00216	0.000652	0.00000648	0.00271	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000172	0.000401	0.00690	0.0000198	0.0000560	0.00280	0.000532	0.0382	0.00140	0.0189	0.00197	0.00171	0.000616	0.00000551	0.00214	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000611	0.000161	0.00303	0.0000158	0.0000409	0.00242	0.000419	0.0442	0.000262	0.0106	0.00197	0.00157	0.000484	0.00000433	0.00122	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000122	0.000374	0.00372	0.0000103	0.0000597	ND	0.000304	0.0242	0.000532	0.00971	0.00124	0.00135	0.000595	0.00000558	0.00125	ND
12/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.000149	0.000648	0.0118	0.0000416	0.0000800	0.00701	0.00184	0.0895	0.00112	0.0461	0.00432	0.00437	0.000264	0.00000289	0.00481	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000262	0.000829	0.0157	0.0000536	0.0000578	0.00765	0.00184	0.0540	0.00400	0.0556	0.00210	0.00490	0.000313	0.00000274	0.00583	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000330	0.000176	0.00415	0.0000322	0.0000209	0.00398	0.000907	0.0564	0.000297	0.0211	0.00213	0.00250	0.000182	0.00000142	0.00185	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000103	0.000374	0.00466	0.0000142	0.0000428	0.00292	0.000511	0.0350	0.000590	0.0151	0.00158	0.00154	0.000158	0.00000108	0.00151	ND
12/30/2024	Opukea Townhomes (AM-05)		0.000141	0.000185	0.00557	0.0000113	0.00000902	0.00226	0.000395	0.103	0.000424	0.0110	0.00513	0.00122	0.000136	0.000000782	0.00118	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000235	0.000424	0.0110	0.0000245	0.0000149	0.00376	0.000838	0.0383	0.00137	0.0241	0.00178	0.00234	0.000195	0.00000130	0.00262	ND
	Lahaina Intermediate School (AM-03)		0.0000479	0.000151	0.00331	0.0000222	0.00000910	0.00258	0.000502	0.0707	0.000199	0.0115	0.00213	0.00167	0.000147	ND	0.00110	ND
	Lahaina Pump Station #6 (AM-08)	<0.0027	0.000114	0.000303	0.00519	0.00000991	0.00000888	0.00852	0.000377	0.0343	0.000648	0.00999	0.00152	0.00117	0.000131	ND	0.000945	ND
12/31/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
1/1/2025	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
95% Upper Confidence Limit[2]		NA	0.000210	0.000460	0.00871	0.0000280	0.000068	0.00507	0.000930	0.0613	0.00140	0.0262	0.00276	0.00252	0.000590	0.00000840	0.00280	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Christmas following day and New Years Eve and New Years holiday observance
Samples not collected due to sampling cassette shortage related to the lab

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 26, 2024 through January 1, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/26/2024	AM-02	WW Pump Station #4	0.7	S	78	67	764.1
12/26/2024	AM-03	Lahaina Intermediate School	1.1	SSE	77	62	754.4
12/26/2024	AM-05	Opukea Townhomes	0.9	ESE	79	61	763.5
12/26/2024	AM-08	Lahaina Pump Station #6	1.4	SSW	78	65	764.2
12/27/2024	AM-02	WW Pump Station #4	0.8	SSE	78	64	763.9
12/27/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	62	754.6
12/27/2024	AM-05	Opukea Townhomes	0.9	E	79	60	763.7
12/27/2024	AM-08	Lahaina Pump Station #6	1.4	S	78	63	764.0
12/28/2024	AM-02	WW Pump Station #4	1.1	SE	78	59	763.4
12/28/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	62	754.5
12/28/2024	AM-05	Opukea Townhomes	1.4	SE	78	60	763.5
12/28/2024	AM-08	Lahaina Pump Station #6	1.7	SE	77	59	763.5
12/29/2024	AM-02	WW Pump Station #4	0.9	SSE	77	66	763.5
12/29/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	67	754.6
12/29/2024	AM-05	Opukea Townhomes	1.1	SE	78	65	763.7
12/29/2024	AM-08	Lahaina Pump Station #6	1.6	SE	77	65	763.6
12/30/2024	AM-02	WW Pump Station #4	0.9	SSE	77	67	763.6
12/30/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	66	754.7
12/30/2024	AM-05	Opukea Townhomes	1.1	SSE	78	66	763.8
12/30/2024	AM-08	Lahaina Pump Station #6	1.5	SE	77	65	763.7
12/31/2024	AM-02	WW Pump Station #4	0.9	SSE	78	68	763.5
12/31/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	69	754.7
12/31/2024	AM-05	Opukea Townhomes	1.1	SSE	79	68	763.8
12/31/2024	AM-08	Lahaina Pump Station #6	1.3	SSE	78	68	763.6
1/1/2025	AM-02	WW Pump Station #4	1.0	SE	77	65	762.6
1/1/2025	AM-03	Lahaina Intermediate School	1.0	SE	76	67	753.9
1/1/2025	AM-05	Opukea Townhomes	1.1	SE	78	66	763.0
1/1/2025	AM-08	Lahaina Pump Station #6	1.4	SE	77	64	762.8

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	04-519
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-122624-AB**		**Sample Description:**	**DL698342**
EMSL Sample Number:	000004519-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0001 **Customer Sample:** MFL-FB01-122624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J7	None Detected									
B1	J5	None Detected									
B1	I6	None Detected									
B1	I4	None Detected									
B2	F10	None Detected									
B2	F8	None Detected									
B2	E9	None Detected									
B3	C2	None Detected									
B3	C4	None Detected									
B3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122724-AB**		**Sample Description:**	**DL698106**
EMSL Sample Number:	000004519-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7341.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0002 **Customer Sample:** MFL-AM05-122724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I6	None Detected									
B5	H5	None Detected									
B6	J7	None Detected									
B6	G9	None Detected									
B7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-122724-AB**	**Sample Description:**	**DL698158**
EMSL Sample Number:	000004519-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7417.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0003 **Customer Sample:** MFL-AM02-122724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A4	None Detected									
C1	A6	None Detected									
C2	B8	None Detected									
C2	D7	None Detected									
C3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122724-AB**		**Sample Description:**	**DL698129**
EMSL Sample Number:	000004519-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7474.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0004 **Customer Sample:** MFL-AM03-122724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	I7	None Detected									
C6	A3	None Detected									
C6	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-122724-AB** **Sample Description: DL698384**

EMSL Sample Number:	000004519-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7558.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

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Approved Signatory

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0005 **Customer Sample:** MFL-AM08-122724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	H6	None Detected									
D1	G5	None Detected									
D2	B7	None Detected									
D2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires Lahaina**

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Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-122724-AB**		**Sample Description:**	**DL697960**
EMSL Sample Number:	000004519-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0006 **Customer Sample:** MFL-FB01-122724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J4	None Detected									
D5	J2	None Detected									
D5	I3	None Detected									
D5	I1	None Detected									
D6	H5	None Detected									
D6	H3	None Detected									
D6	G4	None Detected									
D7	D8	None Detected									
D7	D6	None Detected									
D7	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-122824-AB**	**Sample Description:**	**DL698072**
EMSL Sample Number:	000004519-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7300.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0007 **Customer Sample:** MFL-AM05-122824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B3	None Detected									
E1	C4	None Detected									
E2	A6	None Detected									
E2	D7	None Detected									
E3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-122824-AB**	**Sample Description:**	**DL697980**
EMSL Sample Number:	000004519-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6478.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0008 **Customer Sample:** MFL-AM02-122824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A7	None Detected									
E5	B8	None Detected									
E6	J4	None Detected									
E6	I3	None Detected									
E7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122824-AB**		**Sample Description:**	**DL698507**
EMSL Sample Number:	000004519-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0009 **Customer Sample:** MFL-AM03-122824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	D8	None Detected									
F1	E7	None Detected									
F2	A5	None Detected									
F2	B4	None Detected									
F3	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-122824-AB**		**Sample Description:**	**DL698161**
EMSL Sample Number:	000004519-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7109.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0010 **Customer Sample:** MFL-AM08-122824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	C2	None Detected									
F5	D3	None Detected									
F6	J9	None Detected									
F6	I8	None Detected									
F7	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-122824-AB** **Sample Description: DL698179**

EMSL Sample Number:	000004519-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0011 **Customer Sample:** MFL-FB01-122824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B5	None Detected									
G1	B7	None Detected									
G1	C4	None Detected									
G1	C6	None Detected									
G2	J9	None Detected									
G2	J7	None Detected									
G2	I8	None Detected									
G3	H8	None Detected									
G3	H6	None Detected									
G3	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
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Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/06/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-122924-AB** **Sample Description: DL698518**

EMSL Sample Number:	000004519-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0012 **Customer Sample:** MFL-AM05-122924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	C3	None Detected									
G5	D4	None Detected									
G6	J8	None Detected									
G6	I7	None Detected									
G7	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-122924-AB** **Sample Description: DL698173**

EMSL Sample Number:	000004519-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6942.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0013 **Customer Sample:** MFL-AM02-122924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J7	None Detected									
H1	I9	None Detected									
H2	G8	None Detected									
H2	F10	None Detected									
H3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/06/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-122924-AB**	**Sample Description:**	**DL697997**
EMSL Sample Number:	000004519-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7177.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0014 **Customer Sample:** MFL-AM03-122924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	E9	None Detected									
H5	D8	None Detected									
H6	C7	None Detected									
H6	B5	None Detected									
H7	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/06/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-122924-AB** **Sample Description: DL694673**

EMSL Sample Number:	000004519-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7254.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0015 **Customer Sample:** MFL-AM08-122924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A6	None Detected									
I1	C5	None Detected									
I2	D4	None Detected									
I2	E3	None Detected									
I3	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
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Analysis Date:	01/06/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-122924-AB** **Sample Description: DL694735**

EMSL Sample Number:	000004519-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID:	**000004519**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0016 **Customer Sample:** MFL-FB01-122924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	C5	None Detected									
I5	C7	None Detected									
I5	D6	None Detected									
I5	D8	None Detected									
I6	J9	None Detected									
I6	J7	None Detected									
I6	H8	None Detected									
I7	F8	None Detected									
I7	F6	None Detected									
I7	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	04-519
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Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/02/2025 09:30 AM
Analysis Date:	01/03/2025
Report Date:	01/07/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	000004519-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 000004519-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B5	None Detected									
A1	B7	None Detected									
A1	C8	None Detected									
A1	C10	None Detected									
A2	D7	None Detected									
A2	D9	None Detected									
A2	F6	None Detected									
A3	J5	None Detected									
A3	J3	None Detected									
A3	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

04-519

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL:

RECEIVED
EMSL
CINNAMINSON NJ
25 JAN -2 AM 9:40

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-FB01-122624-AB	DL698342	0	12/26/24 1200
MFL-AM05-122724-AB	DL698106	7,341.506	12/27/24 1058
MFL-AM02-122724-AB	DL698158	7,417.539	12/27/24 1126
MFL-AM03-122724-AB	DL698129	7,474.582	12/27/24 1253
MFL-AM08-122724-AB	DL698384	7,558.863	12/27/24 1321
MFL-FB01-122724-AB	DL697960	0	12/27/24 1200
MFL-AM05-122824-AB	DL698072	7,300.848	12/28/24 1055
MFL-AM02-122824-AB	DL697980	6,478.445	12/28/24 1112

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

16 pg

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by	Date/Time	Received by	Date/Time
Shaina Epstein	12/30/24 1100	FedEx	1/2/25 9:30

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

04-519

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

RECEIVED CINNAMINSON NJ 2024 DEC 30 PM 1:30

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03-122824-AB	DL6985O7	7,139,259	12/28/24 1251
MFL-AM08-122824-AB	DL698161	7,109.323	12/28/24 1311
MFL-FB01-122824-AB	DL698179	0	12/28/24 1200
MFL-AM05-122924-AB	DL698518	7,242.179	12/29/24 1056
MFL-AM02-122924-AB	DL698173	6,942.342	12/29/24 1113
MFL-AM03-122924-AB	DL697997	7,177.240	12/29/24 1252
MFL-AM08-122924-AB	DL694673	7,254.082	12/29/24 1308
~~MFL~~ MFL-FB01-122924-AB	DL694735	0	12/29/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shenna Epstein	Date/Time: 12/30/24 1100	Received by: FedEx	Date/Time 1/2/25 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/07/2025 and Shanna Vasser 01/07/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/26/2024 – 12/29/2024
Report No: 04-519

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500181
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/10/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-123024-AB**	**Sample Description:**	**DL698136**
EMSL Sample Number:	042500181-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7061.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500181
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500181-0001 **Customer Sample:** MFL-AM02-123024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	B6	None Detected									
J5	E3	None Detected									
J5	G6	None Detected									
J6	H4	None Detected									
J6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500181
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/10/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-123024-AB**		**Sample Description:**	**DL698529**
EMSL Sample Number:	042500181-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6811.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500181
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500181-0002 **Customer Sample:** MFL-AM08-123024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	B2	None Detected									
K1	E2	None Detected									
K1	H3	None Detected									
K2	C4	None Detected									
K2	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500181
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/10/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-123024-AB** **Sample Description: DL698466**

EMSL Sample Number:	042500181-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500181
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500181-0003 **Customer Sample:** MFL-FB01-123024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J8	None Detected									
K5	H10	None Detected									
K5	F7	None Detected									
K5	D9	None Detected									
K5	B4	None Detected									
K6	A3	None Detected									
K6	C1	None Detected									
K6	E2	None Detected									
K6	G1	None Detected									
K6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500181
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/10/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042500181-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500181
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500181-0004 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A2	None Detected									
J2	C1	None Detected									
J2	E9	None Detected									
J2	G2	None Detected									
J2	J2	None Detected									
J3	J4	None Detected									
J3	H10	None Detected									
J3	F10	None Detected									
J3	D7	None Detected									
J3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042500181

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED 25 JAN -8 AM 9:47 EMSL CINNAMINSON, NJ

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI

State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Sampled By Name: Shaina Epstein | Sampled By Signature: | No. of Samples in Shipment: 3

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM02-123024-AB	DL698136	7061.746	12/30/24 1104
MFL-AM08-123024-AB	DL698529	6810.957	12/30/24 1131
MFL-FB01-123024-AB	DL698466	0	12/30/24 1200

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

(3) gp

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 1/2/25 1100	Received by: FedEx	Date/Time 1/8/25 9:30A
Relinquished by:		Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/10/2025 and Shanna Vasser 01/14/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 12/30/2024
Report No: 42500181

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

January 14, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/06/25 11:38.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-122724-HM	5010655-01	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM02-122724-HM	5010655-02	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM03-122724-HM	5010655-03	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM08-122724-HM	5010655-04	Air	12/27/24 23:59	01/06/25 11:38
MFL-FB01-122724-HM	5010655-05	Air	12/27/24 00:00	01/06/25 11:38
MFL-AM05-122824-HM	5010655-06	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM02-122824-HM	5010655-07	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM03-122824-HM	5010655-08	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM08-122824-HM	5010655-09	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM05-122924-HM	5010655-10	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM02-122924-HM	5010655-11	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM03-122924-HM	5010655-12	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM08-122924-HM	5010655-13	Air	12/29/24 23:59	01/06/25 11:38
MFL-FB01-122924-HM	5010655-14	Air	12/29/24 00:00	01/06/25 11:38
MFL-AM05-123024-HM	5010655-15	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM02-123024-HM	5010655-16	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM03-123024-HM	5010655-17	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM08-123024-HM	5010655-18	Air	12/30/24 23:59	01/06/25 11:38

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122724-HM
Matrix: Air
Lab ID: 5010655-01
Sample Volume: 1867.839 m³
Filter ID:
Sampled: 12/27/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 21:24

Comments: Q8529620 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.160**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.290**		**0.00774**
Barium	**7440-39-3**	**5.88**		**1.34**
Beryllium	**7440-41-7**	**0.0136**		**0.00166**
Cadmium	**7440-43-9**	**0.0433**		**0.00446**
Chromium	**7440-47-3**	**2.49**		**2.13**
Cobalt	**7440-48-4**	**0.419**		**0.0453**
Copper	**7440-50-8**	**43.8**		**0.655**
Lead	**7439-92-1**	**0.648**		**0.117**
Manganese	**7439-96-5**	**13.2**		**0.485**
Molybdenum	**7439-98-7**	**2.37**		**0.343**
Nickel	**7440-02-0**	**1.50**		**0.644**
Selenium	**7782-49-2**	**0.613**		**0.00880**
Thallium	**7440-28-0**	**0.00773**		**7.50E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0399**
Zinc	7440-66-6	15.2	U	99.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122724-HM
Matrix: Air
Lab ID: 5010655-02
Sample Volume: 2145.58 m³
Filter ID:
Sampled: 12/27/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 21:38

Comments: Q8529619 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.305**	SL	**0.0265**
Arsenic	**7440-38-2**	**0.427**		**0.00674**
Barium	**7440-39-3**	**10.7**		**1.17**
Beryllium	**7440-41-7**	**0.0210**		**0.00144**
Cadmium	**7440-43-9**	**0.0450**		**0.00388**
Chromium	**7440-47-3**	**3.20**		**1.85**
Cobalt	**7440-48-4**	**0.690**		**0.0394**
Copper	**7440-50-8**	**42.5**		**0.570**
Lead	**7439-92-1**	**1.34**		**0.102**
Manganese	**7439-96-5**	**21.4**		**0.422**
Molybdenum	**7439-98-7**	**2.16**		**0.299**
Nickel	**7440-02-0**	**2.16**		**0.560**
Selenium	**7782-49-2**	**0.633**		**0.00766**
Thallium	**7440-28-0**	**0.00741**		**6.53E-4**
Vanadium	**7440-62-2**	**2.64**		**0.0347**
Zinc	7440-66-6	22.9	U	86.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122724-HM
Matrix: Air
Lab ID: 5010655-03
Sample Volume: 2000.588 m³
Filter ID:
Sampled: 12/27/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 21:52

Comments: Q8529618 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0767**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.227**		**0.00723**
Barium	**7440-39-3**	**3.51**		**1.25**
Beryllium	**7440-41-7**	**0.0154**		**0.00155**
Cadmium	**7440-43-9**	**0.0396**		**0.00416**
Chromium	**7440-47-3**	**2.36**		**1.98**
Cobalt	**7440-48-4**	**0.380**		**0.0423**
Copper	**7440-50-8**	**54.3**		**0.612**
Lead	**7439-92-1**	**0.468**		**0.109**
Manganese	**7439-96-5**	**10.2**		**0.453**
Molybdenum	**7439-98-7**	**2.21**		**0.320**
Nickel	**7440-02-0**	**1.41**		**0.601**
Selenium	**7782-49-2**	**0.576**		**0.00821**
Thallium	**7440-28-0**	**0.00686**		**7.00E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0372**
Zinc	7440-66-6	8.71	U	92.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122724-HM
Matrix: Air
Lab ID: 5010655-04
Sample Volume: 1822.029 m³
Filter ID:
Sampled: 12/27/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 22:06

Comments: Q8529617 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.335**		**0.00794**
Barium	**7440-39-3**	**4.44**		**1.38**
Beryllium	**7440-41-7**	**0.00874**		**0.00170**
Cadmium	**7440-43-9**	**0.0448**		**0.00457**
Chromium	7440-47-3	1.81	U	2.18
Cobalt	**7440-48-4**	**0.261**		**0.0464**
Copper	**7440-50-8**	**29.0**		**0.672**
Lead	**7439-92-1**	**0.587**		**0.120**
Manganese	**7439-96-5**	**8.36**		**0.497**
Molybdenum	**7439-98-7**	**1.44**		**0.352**
Nickel	**7440-02-0**	**1.11**		**0.660**
Selenium	**7782-49-2**	**0.644**		**0.00902**
Thallium	**7440-28-0**	**0.00764**		**7.69E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0409**
Zinc	7440-66-6	11.9	U	102

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-122724-HM
Matrix: Air
Lab ID: 5010655-05
Sample Volume: 1867.839 m³
Filter ID:
Sampled: 12/27/24 00:00
Received: 01/06/25 11:38
Analysis Date: 01/07/25 22:20

Comments: Q8529626 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	U, SL	0.0305
Arsenic	**7440-38-2**	**0.0110**	FB-01	**0.00774**
Barium	7440-39-3	1.18	U	1.34
Beryllium	7440-41-7	0.00120	U	0.00166
Cadmium	7440-43-9	0.00142	U	0.00446
Chromium	7440-47-3	0.944	U	2.13
Cobalt	7440-48-4	0.0262	U	0.0453
Copper	**7440-50-8**	**0.791**	FB-01	**0.655**
Lead	7439-92-1	0.0442	U	0.117
Manganese	**7439-96-5**	**0.565**	FB-01	**0.485**
Molybdenum	7439-98-7	0.162	U	0.343
Nickel	**7440-02-0**	**0.987**	FB-01	**0.644**
Selenium	7782-49-2	0.00373	U	0.00880
Thallium	7440-28-0	1.71E-4	U	7.50E-4
Vanadium	**7440-62-2**	**0.0611**	FB-01	**0.0399**
Zinc	7440-66-6	6.33	U	99.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122824-HM
Matrix: Air
Lab ID: 5010655-06
Sample Volume: 1828.114 m³
Filter ID:
Sampled: 12/28/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 22:34

Comments: Q8529616 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.141**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.405**		**0.00791**
Barium	**7440-39-3**	**7.49**		**1.37**
Beryllium	**7440-41-7**	**0.0230**		**0.00169**
Cadmium	**7440-43-9**	**0.0669**		**0.00456**
Chromium	**7440-47-3**	**3.45**		**2.17**
Cobalt	**7440-48-4**	**0.763**		**0.0463**
Copper	**7440-50-8**	**51.4**		**0.669**
Lead	**7439-92-1**	**0.669**		**0.119**
Manganese	**7439-96-5**	**25.3**		**0.496**
Molybdenum	**7439-98-7**	**2.91**		**0.351**
Nickel	**7440-02-0**	**2.16**		**0.658**
Selenium	**7782-49-2**	**0.652**		**0.00899**
Thallium	**7440-28-0**	**0.00648**		**7.66E-4**
Vanadium	**7440-62-2**	**2.71**		**0.0408**
Zinc	7440-66-6	15.0	U	101

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122824-HM
Matrix: Air
Lab ID: 5010655-07
Sample Volume: 2090.405 m³
Filter ID:
Sampled: 12/28/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 22:48

Comments: Q8529615 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0272**
Arsenic	**7440-38-2**	**0.401**		**0.00692**
Barium	**7440-39-3**	**6.90**		**1.20**
Beryllium	**7440-41-7**	**0.0198**		**0.00148**
Cadmium	**7440-43-9**	**0.0560**		**0.00398**
Chromium	**7440-47-3**	**2.80**		**1.90**
Cobalt	**7440-48-4**	**0.532**		**0.0405**
Copper	**7440-50-8**	**38.2**		**0.585**
Lead	**7439-92-1**	**1.40**		**0.104**
Manganese	**7439-96-5**	**18.9**		**0.434**
Molybdenum	**7439-98-7**	**1.97**		**0.307**
Nickel	**7440-02-0**	**1.71**		**0.575**
Selenium	**7782-49-2**	**0.616**		**0.00786**
Thallium	**7440-28-0**	**0.00551**		**6.70E-4**
Vanadium	**7440-62-2**	**2.14**		**0.0356**
Zinc	7440-66-6	20.9	U	88.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122824-HM
Matrix: Air
Lab ID: 5010655-08
Sample Volume: 1982.6 m³
Filter ID:
Sampled: 12/28/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 23:02

Comments: Q8529614 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0611**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.161**		**0.00730**
Barium	**7440-39-3**	**3.03**		**1.26**
Beryllium	**7440-41-7**	**0.0158**		**0.00156**
Cadmium	**7440-43-9**	**0.0409**		**0.00420**
Chromium	**7440-47-3**	**2.42**		**2.00**
Cobalt	**7440-48-4**	**0.419**		**0.0427**
Copper	**7440-50-8**	**44.2**		**0.617**
Lead	**7439-92-1**	**0.262**		**0.110**
Manganese	**7439-96-5**	**10.6**		**0.457**
Molybdenum	**7439-98-7**	**1.97**		**0.323**
Nickel	**7440-02-0**	**1.57**		**0.606**
Selenium	**7782-49-2**	**0.484**		**0.00829**
Thallium	**7440-28-0**	**0.00433**		**7.07E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0376**
Zinc	7440-66-6	6.78	U	93.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122824-HM
Matrix: Air
Lab ID: 5010655-09
Sample Volume: 1750.112 m³
Filter ID:
Sampled: 12/28/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 18:54

Comments: Q8529640 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.374**		**0.00826**
Barium	**7440-39-3**	**3.72**		**1.43**
Beryllium	**7440-41-7**	**0.0103**		**0.00177**
Cadmium	**7440-43-9**	**0.0597**	D-F	**0.00476**
Chromium	7440-47-3	2.23	U	2.27
Cobalt	**7440-48-4**	**0.304**		**0.0483**
Copper	**7440-50-8**	**24.2**		**0.699**
Lead	**7439-92-1**	**0.532**		**0.125**
Manganese	**7439-96-5**	**9.71**		**0.518**
Molybdenum	**7439-98-7**	**1.24**		**0.366**
Nickel	**7440-02-0**	**1.35**		**0.687**
Selenium	**7782-49-2**	**0.595**		**0.00939**
Thallium	**7440-28-0**	**0.00558**		**8.00E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0426**
Zinc	7440-66-6	12.3	U	106

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-122924-HM
Matrix: Air
Lab ID: 5010655-10
Sample Volume: 1995.87 m³
Filter ID:
Sampled: 12/29/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 23:16

Comments: Q8529638 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.648**		**0.00725**
Barium	**7440-39-3**	**11.8**		**1.26**
Beryllium	**7440-41-7**	**0.0416**		**0.00155**
Cadmium	**7440-43-9**	**0.0800**		**0.00417**
Chromium	**7440-47-3**	**7.01**		**1.99**
Cobalt	**7440-48-4**	**1.84**		**0.0424**
Copper	**7440-50-8**	**89.5**		**0.613**
Lead	**7439-92-1**	**1.12**		**0.109**
Manganese	**7439-96-5**	**46.1**		**0.454**
Molybdenum	**7439-98-7**	**4.32**		**0.321**
Nickel	**7440-02-0**	**4.37**		**0.602**
Selenium	**7782-49-2**	**0.264**		**0.00823**
Thallium	**7440-28-0**	**0.00289**		**7.02E-4**
Vanadium	**7440-62-2**	**4.81**		**0.0373**
Zinc	7440-66-6	28.8	U	92.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-122924-HM
Matrix: Air
Lab ID: 5010655-11
Sample Volume: 2031.7 m³
Filter ID:
Sampled: 12/29/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/07/25 23:30

Comments: Q8529636 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.262**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.829**		**0.00712**
Barium	**7440-39-3**	**15.7**		**1.23**
Beryllium	**7440-41-7**	**0.0536**		**0.00152**
Cadmium	**7440-43-9**	**0.0578**		**0.00410**
Chromium	**7440-47-3**	**7.65**		**1.95**
Cobalt	**7440-48-4**	**1.84**		**0.0416**
Copper	**7440-50-8**	**54.0**		**0.602**
Lead	**7439-92-1**	**4.00**		**0.107**
Manganese	**7439-96-5**	**55.6**		**0.446**
Molybdenum	**7439-98-7**	**2.10**		**0.316**
Nickel	**7440-02-0**	**4.90**		**0.592**
Selenium	**7782-49-2**	**0.313**		**0.00809**
Thallium	**7440-28-0**	**0.00274**		**6.89E-4**
Vanadium	**7440-62-2**	**5.83**		**0.0367**
Zinc	7440-66-6	47.6	U	91.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-122924-HM
Matrix: Air
Lab ID: 5010655-12
Sample Volume: 1856.377 m³
Filter ID:
Sampled: 12/29/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 00:32

Comments: Q8529635 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0330**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.176**		**0.00779**
Barium	**7440-39-3**	**4.15**		**1.35**
Beryllium	**7440-41-7**	**0.0322**		**0.00167**
Cadmium	**7440-43-9**	**0.0209**		**0.00449**
Chromium	**7440-47-3**	**3.98**		**2.14**
Cobalt	**7440-48-4**	**0.907**		**0.0456**
Copper	**7440-50-8**	**56.4**		**0.659**
Lead	**7439-92-1**	**0.297**		**0.117**
Manganese	**7439-96-5**	**21.1**		**0.488**
Molybdenum	**7439-98-7**	**2.13**		**0.345**
Nickel	**7440-02-0**	**2.50**		**0.648**
Selenium	**7782-49-2**	**0.182**		**0.00885**
Thallium	**7440-28-0**	**0.00142**		**7.55E-4**
Vanadium	**7440-62-2**	**1.85**		**0.0401**
Zinc	7440-66-6	7.06	U	99.9

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-122924-HM
Matrix: Air
Lab ID: 5010655-13
Sample Volume: 1956.181 m³
Filter ID:
Sampled: 12/29/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 00:46

Comments: Q8529634 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.374**		**0.00739**
Barium	**7440-39-3**	**4.66**		**1.28**
Beryllium	**7440-41-7**	**0.0142**		**0.00158**
Cadmium	**7440-43-9**	**0.0428**		**0.00426**
Chromium	**7440-47-3**	**2.92**		**2.03**
Cobalt	**7440-48-4**	**0.511**		**0.0432**
Copper	**7440-50-8**	**35.0**		**0.625**
Lead	**7439-92-1**	**0.590**		**0.111**
Manganese	**7439-96-5**	**15.1**		**0.463**
Molybdenum	**7439-98-7**	**1.58**		**0.328**
Nickel	**7440-02-0**	**1.54**		**0.615**
Selenium	**7782-49-2**	**0.158**		**0.00840**
Thallium	**7440-28-0**	**0.00108**		**7.16E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0381**
Zinc	7440-66-6	10.2	U	94.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-122924-HM
Matrix: Air
Lab ID: 5010655-14
Sample Volume: 1995.87 m³
Filter ID:
Sampled: 12/29/24 00:00
Received: 01/06/25 11:38
Analysis Date: 01/08/25 01:00

Comments: Q8529627 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0166	SL, U	0.0285
Arsenic	**7440-38-2**	**0.00822**	FB-01	**0.00725**
Barium	7440-39-3	1.00	U	1.26
Beryllium	7440-41-7	3.94E-4	U	0.00155
Cadmium	7440-43-9	8.52E-4	U	0.00417
Chromium	7440-47-3	0.822	U	1.99
Cobalt	7440-48-4	0.0131	U	0.0424
Copper	7440-50-8	0.529	U	0.613
Lead	7439-92-1	0.0301	U	0.109
Manganese	7439-96-5	0.273	U	0.454
Molybdenum	7439-98-7	0.144	U	0.321
Nickel	7440-02-0	0.352	U	0.602
Selenium	7782-49-2	0.00324	U	0.00823
Thallium	7440-28-0	1.28E-4	U	7.02E-4
Vanadium	7440-62-2	0.0244	U	0.0373
Zinc	7440-66-6	2.92	U	92.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-123024-HM
Matrix: Air
Lab ID: 5010655-15
Sample Volume: 2010.702 m³
Filter ID:
Sampled: 12/30/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 01:14

Comments: Q8529631 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.141**	SL	**0.0283**
Arsenic	**7440-38-2**	**0.185**		**0.00719**
Barium	**7440-39-3**	**5.57**		**1.25**
Beryllium	**7440-41-7**	**0.0113**		**0.00154**
Cadmium	**7440-43-9**	**0.00902**		**0.00414**
Chromium	**7440-47-3**	**2.26**		**1.97**
Cobalt	**7440-48-4**	**0.395**		**0.0421**
Copper	**7440-50-8**	**103**		**0.608**
Lead	**7439-92-1**	**0.424**		**0.108**
Manganese	**7439-96-5**	**11.0**		**0.451**
Molybdenum	**7439-98-7**	**5.13**		**0.319**
Nickel	**7440-02-0**	**1.22**		**0.598**
Selenium	**7782-49-2**	**0.136**		**0.00817**
Thallium	**7440-28-0**	**7.82E-4**		**6.97E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0371**
Zinc	7440-66-6	13.1	U	92.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-123024-HM
Matrix: Air
Lab ID: 5010655-16
Sample Volume: 2059.532 m³
Filter ID:
Sampled: 12/30/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 01:42

Comments: Q8529629 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.235**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.424**		**0.00702**
Barium	**7440-39-3**	**11.0**		**1.22**
Beryllium	**7440-41-7**	**0.0245**		**0.00150**
Cadmium	**7440-43-9**	**0.0149**		**0.00404**
Chromium	**7440-47-3**	**3.76**		**1.93**
Cobalt	**7440-48-4**	**0.838**		**0.0411**
Copper	**7440-50-8**	**38.3**		**0.594**
Lead	**7439-92-1**	**1.37**		**0.106**
Manganese	**7439-96-5**	**24.1**		**0.440**
Molybdenum	**7439-98-7**	**1.78**		**0.311**
Nickel	**7440-02-0**	**2.34**		**0.584**
Selenium	**7782-49-2**	**0.195**		**0.00798**
Thallium	**7440-28-0**	**0.00130**		**6.80E-4**
Vanadium	**7440-62-2**	**2.62**		**0.0362**
Zinc	7440-66-6	27.8	U	90.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-123024-HM
Matrix: Air
Lab ID: 5010655-17
Sample Volume: 1752.953 m³
Filter ID:
Sampled: 12/30/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 01:56

Comments: Q8529628 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0479**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.151**		**0.00825**
Barium	**7440-39-3**	**3.31**		**1.43**
Beryllium	**7440-41-7**	**0.0222**		**0.00176**
Cadmium	**7440-43-9**	**0.00910**		**0.00475**
Chromium	**7440-47-3**	**2.58**		**2.26**
Cobalt	**7440-48-4**	**0.502**		**0.0483**
Copper	**7440-50-8**	**70.7**		**0.698**
Lead	**7439-92-1**	**0.199**		**0.124**
Manganese	**7439-96-5**	**11.5**		**0.517**
Molybdenum	**7439-98-7**	**2.13**		**0.366**
Nickel	**7440-02-0**	**1.67**		**0.686**
Selenium	**7782-49-2**	**0.147**		**0.00937**
Thallium	7440-28-0	7.03E-4	U	7.99E-4
Vanadium	**7440-62-2**	**1.10**		**0.0425**
Zinc	7440-66-6	9.45	U	106

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-123024-HM
Matrix: Air
Lab ID: 5010655-18
Sample Volume: 1757.157 m³
Filter ID:
Sampled: 12/30/24 23:59
Received: 01/06/25 11:38
Analysis Date: 01/08/25 02:09

Comments: Q8515145 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.303**		**0.00823**
Barium	**7440-39-3**	**5.19**		**1.43**
Beryllium	**7440-41-7**	**0.00991**		**0.00176**
Cadmium	**7440-43-9**	**0.00888**		**0.00474**
Chromium	**7440-47-3**	**8.52**		**2.26**
Cobalt	**7440-48-4**	**0.377**		**0.0481**
Copper	**7440-50-8**	**34.3**		**0.696**
Lead	**7439-92-1**	**0.648**		**0.124**
Manganese	**7439-96-5**	**9.99**		**0.516**
Molybdenum	**7439-98-7**	**1.52**		**0.365**
Nickel	**7440-02-0**	**1.17**		**0.684**
Selenium	**7782-49-2**	**0.131**		**0.00935**
Thallium	7440-28-0	6.52E-4	U	7.97E-4
Vanadium	**7440-62-2**	**0.945**		**0.0424**
Zinc	7440-66-6	11.8	U	106

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Calibration Blank (2501013-CCB1)				Prepared & Analyzed: 01/07/25						
Antimony	0.556		ng/l							
Arsenic	4.87		ng/l							
Barium	3.44		ng/l							
Beryllium	-0.867		ng/l							U
Cadmium	0.0922		ng/l							
Chromium	1.42		ng/l							
Cobalt	0.128		ng/l							
Copper	-19.8		ng/l							U
Lead	2.51		ng/l							
Manganese	3.76		ng/l							
Molybdenum	21.9		ng/l							
Nickel	2.77		ng/l							
Selenium	5.94		ng/l							
Thallium	1.39		ng/l							
Vanadium	-60.4		ng/l							U
Zinc	-14.6		ng/l							U
Calibration Blank (2501013-CCB2)				Prepared & Analyzed: 01/07/25						
Antimony	0.226		ng/l							
Arsenic	2.71		ng/l							
Barium	2.72		ng/l							
Beryllium	-0.889		ng/l							U
Cadmium	0.0875		ng/l							
Chromium	1.29		ng/l							
Cobalt	0.105		ng/l							
Copper	-38.6		ng/l							U
Lead	1.42		ng/l							
Manganese	4.01		ng/l							
Molybdenum	7.36		ng/l							
Nickel	3.72		ng/l							
Selenium	-1.54		ng/l							U
Thallium	1.00		ng/l							
Vanadium	-54.3		ng/l							U
Zinc	14.6		ng/l							
Calibration Blank (2501013-CCB3)				Prepared: 01/07/25 Analyzed: 01/08/25						
Antimony	0.517		ng/l							
Arsenic	6.66		ng/l							
Barium	2.41		ng/l							
Beryllium	-1.12		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Calibration Blank (2501013-CCB3) Contin				Prepared: 01/07/25 Analyzed: 01/08/25						
Cadmium	0.119		ng/l							
Chromium	2.86		ng/l							
Cobalt	0.348		ng/l							
Copper	-33.9		ng/l							U
Lead	1.99		ng/l							
Manganese	4.91		ng/l							
Molybdenum	6.47		ng/l							
Nickel	7.14		ng/l							
Selenium	11.4		ng/l							
Thallium	1.12		ng/l							
Vanadium	-66.8		ng/l							U
Zinc	-8.83		ng/l							U
Calibration Blank (2501013-CCB4)				Prepared: 01/07/25 Analyzed: 01/08/25						
Antimony	0.267		ng/l							
Arsenic	3.79		ng/l							
Barium	2.69		ng/l							
Beryllium	-1.27		ng/l							U
Cadmium	0.0585		ng/l							
Chromium	1.38		ng/l							
Cobalt	0.289		ng/l							
Copper	-35.5		ng/l							U
Lead	1.84		ng/l							
Manganese	4.37		ng/l							
Molybdenum	7.23		ng/l							
Nickel	4.29		ng/l							
Selenium	4.11		ng/l							
Thallium	1.08		ng/l							
Vanadium	-66.6		ng/l							U
Zinc	-11.8		ng/l							U
Calibration Check (2501013-CCV1)				Prepared & Analyzed: 01/07/25						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	19900		ng/l	20000		99.5	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	49700		ng/l	50000		99.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Calibration Check (2501013-CCV1) Contin					Prepared & Analyzed: 01/07/25					
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	19600		ng/l	20000		98.1	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2501013-CCV2)					Prepared & Analyzed: 01/07/25					
Antimony	19500		ng/l	20000		97.7	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4830		ng/l	5000.0		96.6	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49400		ng/l	50000		98.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	195000		ng/l	200000		97.5	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19700		ng/l	20000		98.5	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2501013-CCV3)					Prepared & Analyzed: 01/07/25					
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Calibration Check (2501013-CCV3) Contin					Prepared & Analyzed: 01/07/25					
Selenium	19500		ng/l	20000		97.7	90-110			
Thallium	481		ng/l	500.00		96.3	90-110			
Vanadium	19400		ng/l	20000		96.8	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2501013-CCV4)					Prepared: 01/07/25 Analyzed: 01/08/25					
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2501013-HCV1)					Prepared & Analyzed: 01/07/25					
Antimony	38800		ng/l	40000		96.9	95-105			
Arsenic	38800		ng/l	40000		96.9	95-105			
Barium	387000		ng/l	400000		96.8	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	38400		ng/l	40000		96.1	95-105			
Chromium	458000		ng/l	480000		95.4	95-105			
Cobalt	96100		ng/l	100000		96.1	95-105			
Copper	3.85E6		ng/l	4.0000E6		96.3	95-105			
Lead	390000		ng/l	400000		97.4	95-105			
Manganese	961000		ng/l	1.0000E6		96.1	95-105			
Molybdenum	96800		ng/l	100000		96.8	95-105			
Nickel	230000		ng/l	240000		95.9	95-105			
Selenium	38900		ng/l	40000		97.2	95-105			
Thallium	961		ng/l	1000.0		96.1	95-105			
Vanadium	38500		ng/l	40000		96.3	95-105			
Zinc	976000		ng/l	1.0000E6		97.6	95-105			

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FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Initial Cal Blank (2501013-ICB1)				Prepared & Analyzed: 01/07/25						
Antimony	0.489		ng/l							
Arsenic	2.78		ng/l							
Barium	2.50		ng/l							
Beryllium	-0.505		ng/l							U
Cadmium	0.107		ng/l							
Chromium	3.73		ng/l							
Cobalt	-0.0993		ng/l							U
Copper	-32.4		ng/l							U
Lead	2.45		ng/l							
Manganese	5.56		ng/l							
Molybdenum	8.12		ng/l							
Nickel	-0.259		ng/l							U
Selenium	3.42		ng/l							
Thallium	1.26		ng/l							
Vanadium	-57.0		ng/l							U
Zinc	-2.05		ng/l							U
Initial Cal Check (2501013-ICV1)				Prepared & Analyzed: 01/07/25						
Antimony	19100		ng/l	20000		95.3	90-110			
Arsenic	19100		ng/l	20000		95.3	90-110			
Barium	192000		ng/l	200000		96.1	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	19600		ng/l	20000		98.2	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	46700		ng/l	50000		93.4	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.9	90-110			
Lead	193000		ng/l	200000		96.7	90-110			
Manganese	475000		ng/l	500000		95.0	90-110			
Molybdenum	48500		ng/l	50000		97.0	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2501013-IFA1)				Prepared & Analyzed: 01/07/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501013 - B4L3104										
Interference Check A (2501013-IFA1) Co				Prepared & Analyzed: 01/07/25						
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	301000		ng/l	300000		100	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2501013-IFB1)				Prepared & Analyzed: 01/07/25						
Antimony	19900		ng/l	20000		99.6	80-120			
Arsenic	19800		ng/l	20000		99.0	80-120			
Barium	201000		ng/l	200000		100	80-120			
Beryllium	4700		ng/l	5000.0		94.0	80-120			
Cadmium	19200		ng/l	20000		96.2	80-120			
Chromium	236000		ng/l	240000		98.5	80-120			
Cobalt	48600		ng/l	50000		97.3	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.2	80-120			
Lead	200000		ng/l	200000		100	80-120			
Manganese	481000		ng/l	500000		96.2	80-120			
Molybdenum	349000		ng/l	350000		99.8	80-120			
Nickel	113000		ng/l	120000		94.3	80-120			
Selenium	18700		ng/l	20000		93.5	80-120			
Thallium	504		ng/l	500.00		101	80-120			
Vanadium	18300		ng/l	20000		91.6	80-120			
Zinc	468000		ng/l	500000		93.5	80-120			
Batch B5A0707 - ICP-MS Extraction										
Blank (B5A0707-BLK1)				Prepared & Analyzed: 01/07/25						
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A0707 - ICP-MS Extraction										
Blank (B5A0707-BLK1) Continued				Prepared & Analyzed: 01/07/25						
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U
Zinc	ND	114	ng/m³ Air							U
LCS (B5A0707-BS1)				Prepared & Analyzed: 01/07/25						
Antimony	0.790	0.0350	ng/m³ Air	1.3829		57.1	80-120			SL
Arsenic	2.70	0.00889	ng/m³ Air	2.7658		97.5	80-120			
Barium	29.0	1.54	ng/m³ Air	27.658		105	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3829		97.3	80-120			
Cadmium	1.39	0.00512	ng/m³ Air	1.3829		101	80-120			
Chromium	15.3	2.44	ng/m³ Air	13.829		111	80-120			
Cobalt	1.35	0.0520	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.6	0.752	ng/m³ Air	27.658		107	80-120			
Lead	13.7	0.134	ng/m³ Air	13.829		99.3	80-120			
Manganese	8.70	0.557	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.54	0.394	ng/m³ Air	1.3829		111	80-120			
Nickel	3.19	0.739	ng/m³ Air	2.7658		115	80-120			
Selenium	2.74	0.0101	ng/m³ Air	2.7658		99.1	80-120			
Thallium	0.140	8.61E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.73	0.0458	ng/m³ Air	2.7658		98.7	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A0707-BS2)				Prepared & Analyzed: 01/07/25						
Antimony	1.35	0.0350	ng/m³ Air	1.3829		97.8	80-120			SL
Arsenic	2.71	0.00889	ng/m³ Air	2.7658		98.1	80-120			
Barium	27.9	1.54	ng/m³ Air	27.658		101	80-120			
Beryllium	1.39	0.00190	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.38	0.00512	ng/m³ Air	1.3829		99.8	80-120			
Chromium	14.3	2.44	ng/m³ Air	13.829		104	80-120			
Cobalt	1.34	0.0520	ng/m³ Air	1.3829		97.2	80-120			
Copper	29.0	0.752	ng/m³ Air	27.658		105	80-120			
Lead	13.6	0.134	ng/m³ Air	13.829		98.5	80-120			
Manganese	8.54	0.557	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.37	0.394	ng/m³ Air	1.3829		98.8	80-120			

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FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A0707 - ICP-MS Extraction										
LCS (B5A0707-BS2) Continued				Prepared & Analyzed: 01/07/25						
Nickel	2.75	0.739	ng/m³ Air	2.7658		99.3	80-120			
Selenium	2.78	0.0101	ng/m³ Air	2.7658		100	80-120			
Thallium	0.139	8.61E-4	ng/m³ Air	0.13829		101	80-120			
Vanadium	2.72	0.0458	ng/m³ Air	2.7658		98.5	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5A0707-DUP1)			**Source: 5010655-09**	Prepared & Analyzed: 01/07/25						
Antimony	0.121	0.0325	ng/m³ Air		0.122			1.35	10	SL
Arsenic	0.355	0.00826	ng/m³ Air		0.374			5.24	10	
Barium	3.56	1.43	ng/m³ Air		3.72			4.40	10	
Beryllium	0.00980	0.00177	ng/m³ Air		0.0103			4.76	10	
Cadmium	0.0741	0.00476	ng/m³ Air		0.0597			21.6	10	D-F
Chromium	8.03	2.27	ng/m³ Air		ND				10	
Cobalt	0.320	0.0483	ng/m³ Air		0.304			5.19	10	
Copper	25.8	0.699	ng/m³ Air		24.2			6.26	10	
Lead	0.575	0.125	ng/m³ Air		0.532			7.92	10	
Manganese	10.0	0.518	ng/m³ Air		9.71			2.95	10	
Molybdenum	1.35	0.366	ng/m³ Air		1.24			8.66	10	
Nickel	2.21	0.687	ng/m³ Air		1.35			48.2	10	
Selenium	0.583	0.00939	ng/m³ Air		0.595			1.98	10	
Thallium	0.00527	8.00E-4	ng/m³ Air		0.00558			5.60	10	
Vanadium	1.28	0.0426	ng/m³ Air		1.25			2.31	10	
Zinc	ND	106	ng/m³ Air		ND				10	U
Duplicate (B5A0707-DUP2)			**Source: 5010655-15**	Prepared: 01/07/25 Analyzed: 01/08/25						
Antimony	0.143	0.0283	ng/m³ Air		0.141			1.46	10	SL
Arsenic	0.189	0.00719	ng/m³ Air		0.185			2.08	10	
Barium	5.63	1.25	ng/m³ Air		5.57			1.19	10	
Beryllium	0.0111	0.00154	ng/m³ Air		0.0113			1.47	10	
Cadmium	0.00927	0.00414	ng/m³ Air		0.00902			2.67	10	
Chromium	2.30	1.97	ng/m³ Air		2.26			1.60	10	
Cobalt	0.404	0.0421	ng/m³ Air		0.395			2.24	10	
Copper	104	0.608	ng/m³ Air		103			1.77	10	
Lead	0.430	0.108	ng/m³ Air		0.424			1.38	10	
Manganese	11.2	0.451	ng/m³ Air		11.0			1.94	10	
Molybdenum	5.22	0.319	ng/m³ Air		5.13			1.77	10	
Nickel	1.24	0.598	ng/m³ Air		1.22			2.14	10	
Selenium	0.143	0.00817	ng/m³ Air		0.136			5.28	10	
Thallium	7.50E-4	6.97E-4	ng/m³ Air		7.82E-4			4.24	10	
Vanadium	1.20	0.0371	ng/m³ Air		1.18			1.53	10	

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A0707 - ICP-MS Extraction										
Duplicate (B5A0707-DUP2) Continued		**Source: 5010655-15**		Prepared: 01/07/25 Analyzed: 01/08/25						
Zinc	ND	92.2	ng/m³ Air		ND				10	U
Matrix Spike (B5A0707-MS1)		**Source: 5010655-09**		Prepared & Analyzed: 01/07/25						
Antimony	0.881	0.0325	ng/m³ Air	1.2856	0.122	59.0	80-120			SL
Arsenic	2.91	0.00826	ng/m³ Air	2.5713	0.374	98.5	80-120			
Barium	30.3	1.43	ng/m³ Air	25.713	3.72	103	80-120			
Beryllium	1.11	0.00177	ng/m³ Air	1.2856	0.0103	85.4	80-120			
Cadmium	1.38	0.00476	ng/m³ Air	1.2856	0.0597	103	80-120			
Chromium	15.8	2.27	ng/m³ Air	12.856	ND	123	80-120			
Cobalt	1.57	0.0483	ng/m³ Air	1.2856	0.304	98.3	80-120			
Copper	52.6	0.699	ng/m³ Air	25.713	24.2	110	80-120			
Lead	13.9	0.125	ng/m³ Air	12.856	0.532	104	80-120			
Manganese	17.5	0.518	ng/m³ Air	7.7138	9.71	101	80-120			
Molybdenum	2.54	0.366	ng/m³ Air	1.2856	1.24	101	80-120			
Nickel	3.85	0.687	ng/m³ Air	2.5713	1.35	96.9	80-120			
Selenium	3.12	0.00939	ng/m³ Air	2.5713	0.595	98.3	80-120			
Thallium	0.139	8.00E-4	ng/m³ Air	0.12856	0.00558	104	80-120			
Vanadium	3.77	0.0426	ng/m³ Air	2.5713	1.25	98.0	80-120			
Zinc	ND	106	ng/m³ Air	77.138	ND		80-120			U
Matrix Spike Dup (B5A0707-MSD1)		**Source: 5010655-09**		Prepared & Analyzed: 01/07/25						
Antimony	0.890	0.0325	ng/m³ Air	1.2856	0.122	59.7	80-120	1.03	20	SL
Arsenic	2.83	0.00826	ng/m³ Air	2.5713	0.374	95.4	80-120	2.83	20	
Barium	30.2	1.43	ng/m³ Air	25.713	3.72	103	80-120	0.404	20	
Beryllium	1.28	0.00177	ng/m³ Air	1.2856	0.0103	98.8	80-120	14.4	20	
Cadmium	1.36	0.00476	ng/m³ Air	1.2856	0.0597	101	80-120	1.48	20	
Chromium	15.7	2.27	ng/m³ Air	12.856	ND	122	80-120	0.944	20	
Cobalt	1.55	0.0483	ng/m³ Air	1.2856	0.304	96.7	80-120	1.27	20	
Copper	52.4	0.699	ng/m³ Air	25.713	24.2	110	80-120	0.313	20	
Lead	13.7	0.125	ng/m³ Air	12.856	0.532	102	80-120	1.65	20	
Manganese	17.5	0.518	ng/m³ Air	7.7138	9.71	100	80-120	0.143	20	
Molybdenum	2.50	0.366	ng/m³ Air	1.2856	1.24	98.1	80-120	1.32	20	
Nickel	3.81	0.687	ng/m³ Air	2.5713	1.35	95.7	80-120	0.830	20	
Selenium	3.12	0.00939	ng/m³ Air	2.5713	0.595	98.2	80-120	0.0188	20	
Thallium	0.137	8.00E-4	ng/m³ Air	0.12856	0.00558	102	80-120	1.07	20	
Vanadium	3.74	0.0426	ng/m³ Air	2.5713	1.25	96.7	80-120	0.838	20	
Zinc	ND	106	ng/m³ Air	77.138	ND		80-120		20	U
Post Spike (B5A0707-PS1)		**Source: 5010655-09**		Prepared & Analyzed: 01/07/25						
Antimony	0.368	0.0325	ng/m³ Air	0.25713	0.122	95.4	75-125			SL
Arsenic	1.55	0.00826	ng/m³ Air	1.2856	0.374	91.3	75-125			

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FILE #: 4205.00.003.001
REPORTED: 01/14/25 13:14
SUBMITTED: 01/06/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A0707 - ICP-MS Extraction										
Post Spike (B5A0707-PS1) Continued		**Source: 5010655-09**		Prepared & Analyzed: 01/07/25						
Barium	6.18	1.43	ng/m³ Air	2.5713	3.72	95.8	75-125			
Beryllium	0.254	0.00177	ng/m³ Air	0.25713	0.0103	94.7	75-125			
Cadmium	0.184	0.00476	ng/m³ Air	0.12856	0.0597	96.9	75-125			
Chromium	3.45	2.27	ng/m³ Air	1.2856	ND	268	75-125			
Cobalt	0.539	0.0483	ng/m³ Air	0.25713	0.304	91.4	75-125			
Copper	37.4	0.699	ng/m³ Air	12.856	24.2	102	75-125			
Lead	25.5	0.125	ng/m³ Air	25.713	0.532	97.1	75-125			
Manganese	12.1	0.518	ng/m³ Air	2.5713	9.71	92.1	75-125			
Molybdenum	2.47	0.366	ng/m³ Air	1.2856	1.24	95.1	75-125			
Nickel	3.79	0.687	ng/m³ Air	2.5713	1.35	94.8	75-125			
Selenium	1.77	0.00939	ng/m³ Air	1.2856	0.595	91.1	75-125			
Thallium	0.0668	8.00E-4	ng/m³ Air	6.4282E-2	0.00558	95.2	75-125			
Vanadium	2.42	0.0426	ng/m³ Air	1.2856	1.25	91.2	75-125			
Zinc	ND	106	ng/m³ Air	25.713	ND		75-125			U
Dilution Check (B5A0707-SRL1)		**Source: 5010655-09**		Prepared & Analyzed: 01/07/25						
Antimony	ND	0.163	ng/m³ Air		ND				10	SL, U
Arsenic	0.382	0.0413	ng/m³ Air		0.374			2.20	10	
Barium	ND	7.16	ng/m³ Air		ND				10	U
Beryllium	0.0110	0.00883	ng/m³ Air		0.0103			6.44	10	
Cadmium	0.0604	0.0238	ng/m³ Air		0.0597			1.25	10	
Chromium	ND	11.3	ng/m³ Air		ND				10	U
Cobalt	0.310	0.242	ng/m³ Air		0.304			2.15	10	
Copper	24.6	3.50	ng/m³ Air		24.2			1.61	10	
Lead	ND	0.623	ng/m³ Air		ND				10	U
Manganese	9.78	2.59	ng/m³ Air		9.71			0.662	10	
Molybdenum	ND	1.83	ng/m³ Air		ND				10	U
Nickel	ND	3.44	ng/m³ Air		ND				10	U
Selenium	0.599	0.0469	ng/m³ Air		0.595			0.745	10	
Thallium	0.00715	0.00400	ng/m³ Air		0.00558			24.7	10	
Vanadium	1.25	0.213	ng/m³ Air		1.25			0.549	10	
Zinc	ND	530	ng/m³ Air		ND				10	U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/15/2025 and Shanna Vasser 01/17/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 12/27/2024 – 12/30/2024
Report No: 5010655

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, copper, manganese, nickel, and vanadium in MFL-FB01-122724-HM and arsenic in MFL-FB01-122924-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

January 2 through January 8, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from January 2 through January 8, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 2 through January 8, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station.

The PM_{10} monitoring results were found to have exceeded the 150 µg/m^3 TWA screening level on one day, at the Lahaina Intermediate School and Lahaina Pump Station #6 monitoring locations on January 6, as shown in **Table 1**.

The air monitoring and sampling stations at Lahaina Intermediate School and Lahaina Pump Station #6 exceedances may have been attributable to documented vog (volcanic smog) and high humidity. The exceedances on January 6 are described below:

- On January 6, no United States Army Corps of Engineers (USACE) debris crew or private contractor activities were observed near either the Lahaina Intermediate School or the Lahaina Pump Station #6 monitoring station. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted near those monitoring locations.
    - Humidity averaged 87 percent at Lahaina Intermediate School and 81 percent at Lahaina Pump Station #6 with humidity reaching as high as 96 percent throughout the day. Excessive humid conditions can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.
    - Recent volcanic activity from Kīlauea, southeast of Lahaina and upwind of the monitoring stations, may have contributed to elevated levels of particulate matter due to vog, a mix of sulfur dioxide gas and aerosols, which can affect air quality in downwind areas.

Air Sampling Results

A total of 24 samples for asbestos fibers were collected during this reporting period. With the approval of the HDOH, Tetra Tech field teams were not dispatched on January 1 in observance of the New Year's Holiday. The field teams did not deploy air samples at any of the four air sampling stations on January 1. Subsequently, samples were not collected on January 2 because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on January 6
- WW Pump Station #4 on January 5 through 7
- Lahaina Intermediate School on January 5
- Lahaina Pump Station #6 on January 4, 7, and 8

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.7 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

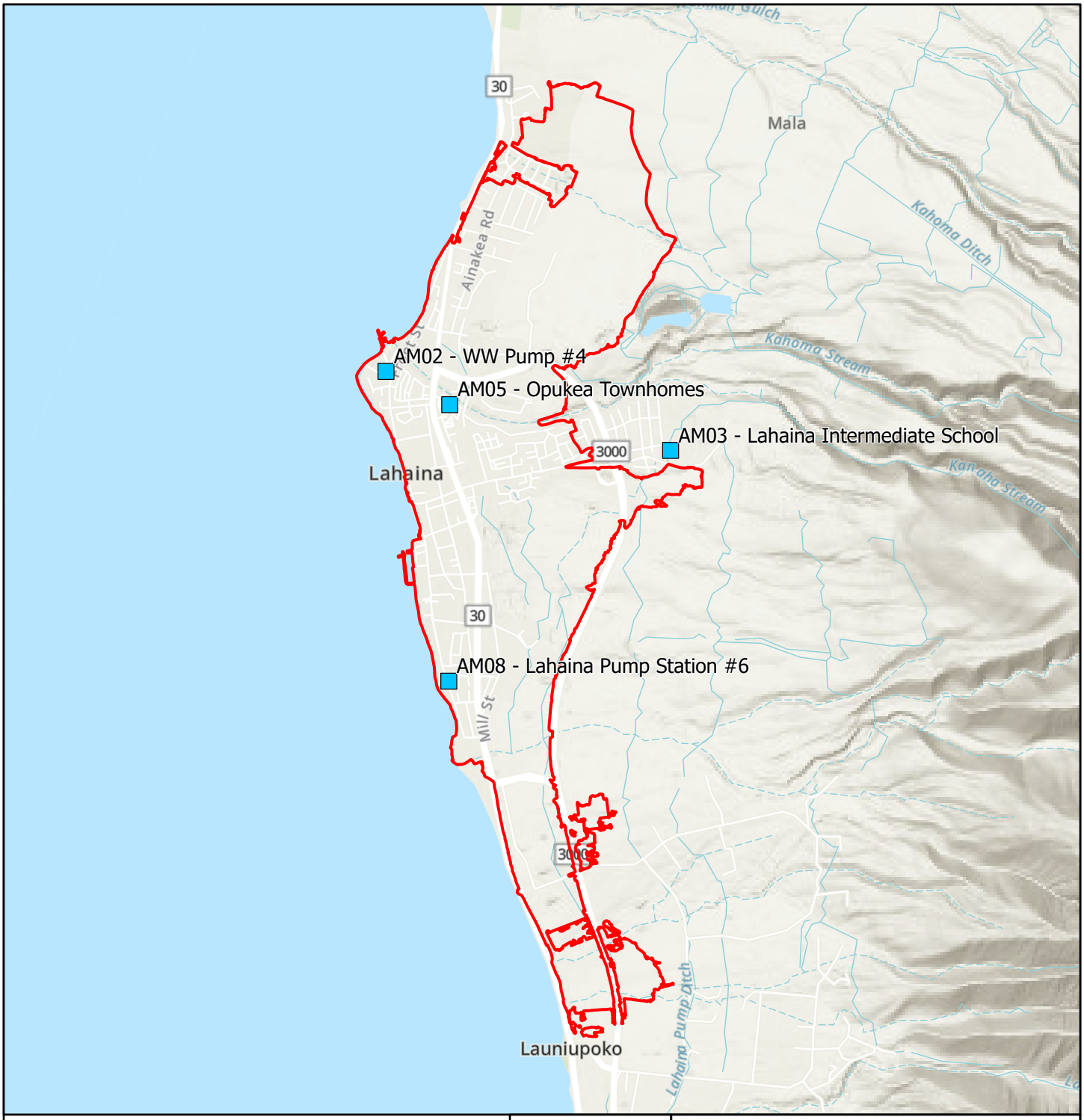
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 2 through January 8, 2025

Screening Level		TWA Results 150 ($\mu g/m^3$)
1/2/2025	Opukea Townhomes (AM-05)	6.7
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	37
	Lahaina Pump Station #6 (AM-08)	19
1/3/2025	Opukea Townhomes (AM-05)	9.3
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	37
	Lahaina Pump Station #6 (AM-08)	11
1/4/2025	Opukea Townhomes (AM-05)	19
	WW Pump Station #4 (AM-02)	17
	Lahaina Intermediate School (AM-03)	27
	Lahaina Pump Station #6 (AM-08)	13
1/5/2025	Opukea Townhomes (AM-05)	16
	WW Pump Station #4 (AM-02)	18
	Lahaina Intermediate School (AM-03)	38
	Lahaina Pump Station #6 (AM-08)	17
1/6/2025	Opukea Townhomes (AM-05)	9.2
	WW Pump Station #4 (AM-02)	5.3
	Lahaina Intermediate School (AM-03)	**163**
	Lahaina Pump Station #6 (AM-08)	**260**
1/7/2025	Opukea Townhomes (AM-05)	9.1
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	110
	Lahaina Pump Station #6 (AM-08)	97
1/8/2025	Opukea Townhomes (AM-05)	6.9
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	11
	Lahaina Pump Station #6 (AM-08)	6.8

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Shaded cell indicates an exceedance of screening level

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 2 through January 8, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
1/2/2025	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
1/3/2025	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000157	0.00704	0.00000841	0.00000738	0.00217	0.000334	0.0426	0.000413	0.00942	0.00242	0.00131	0.000222	0.000000877	0.00155	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000270	0.000349	0.0102	0.0000187	0.0000143	0.00312	0.000663	0.0330	0.00122	0.0188	0.00180	0.00190	0.000266	0.00000119	0.00260	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000508	0.000180	0.00488	0.0000197	0.0000160	0.00259	0.000415	0.0875	0.000212	0.0101	0.00250	0.00138	0.000205	0.000000796	0.00135	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000139	0.000290	0.00489	0.00000933	0.0000106	0.00228	0.000343	0.0323	0.000486	0.00945	0.00128	0.00123	0.000212	0.000000750	0.00124	ND
1/4/2025	Opukea Townhomes (AM-05)	<0.0024	0.000139	0.000535	0.00943	0.0000269	0.000136	0.00341	0.000847	0.0493	0.000628	0.0310	0.00257	0.00180	0.00111	0.00000859	0.00280	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000150	0.000305	0.00733	0.0000142	0.000113	0.00252	0.000471	0.0417	0.000909	0.0133	0.00188	0.00153	0.00103	0.00000715	0.00175	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000484	0.000173	0.00382	0.0000135	0.000129	0.00225	0.000343	0.0905	0.000224	0.00803	0.00249	0.00140	0.00113	0.00000788	0.00138	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000364	0.00347	0.00000786	0.000146	ND	0.000278	0.0323	0.000581	0.00799	0.00135	0.00138	0.00126	0.00000971	0.00175	ND
1/5/2025	Opukea Townhomes (AM-05)	<0.0024	0.000122	0.000973	0.0101	0.0000420	0.000376	0.00460	0.00131	0.0540	0.00114	0.0488	0.00215	0.00297	0.00290	0.0000266	0.00498	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000658	0.0440	0.0000231	0.000356	0.00403	0.000663	0.0854	0.00153	0.0216	0.00203	0.00233	0.00296	0.0000232	0.00315	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000348	0.000228	0.00259	0.0000109	0.000305	ND	0.000246	0.0877	0.000290	0.00569	0.00235	0.00117	0.00231	0.0000214	0.000997	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000762	0.000527	0.00294	0.00000750	0.000336	0.00210	0.000295	0.0246	0.000681	0.00814	0.00126	0.00107	0.00269	0.0000243	0.000944	ND
1/6/2025	Opukea Townhomes (AM-05)	<0.0024	0.0000678	0.000208	0.00275	0.00000297	0.0000895	ND	0.000131	0.0367	0.000431	0.00409	0.00169	0.000951	0.000545	0.00000317	0.000325	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000102	0.000205	0.00305	0.00000475	0.0000558	ND	0.000177	0.0409	0.000618	0.00523	0.00140	0.000856	0.000551	0.00000302	0.000468	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000434	0.0000778	0.00217	0.00000603	0.0000695	0.00491	0.000242	0.0370	0.000176	0.00447	0.00146	0.00469	0.000341	0.00000168	0.000266	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000152	0.000389	0.00211	0.00000331	0.0000596	ND	0.000156	0.0352	0.000435	0.00439	0.00169	0.00116	0.000312	0.00000156	0.000309	ND
1/7/2025	Opukea Townhomes (AM-05)	<0.0024	0.0000737	0.000216	0.00274	0.00000231	0.0000179	0.00356	0.000214	0.0222	0.000507	0.00334	0.00113	0.00387	0.000197	0.000000946	0.000312	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000544	0.000159	0.00274	0.00000174	0.00000992	ND	0.0000617	0.0283	0.000196	0.00169	0.00126	ND	0.000210	0.00000109	0.000242	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000571	0.000105	0.00252	0.00000489	0.0000245	ND	0.000133	0.0325	0.000161	0.00340	0.00131	0.00125	0.000207	0.00000141	0.000342	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000743	0.000425	0.00224	0.00000467	0.000892	ND	0.000139	0.0337	0.000381	0.00474	0.00164	0.000731	0.000223	0.00000159	0.000396	ND
1/8/2025	Opukea Townhomes (AM-05)	<0.0024	0.0000812	0.000329	0.00348	0.00000396	0.0000471	ND	0.000157	0.0303	0.000550	0.00429	0.00163	0.000824	0.000456	0.00000530	0.000427	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000942	0.000329	0.00678	0.00000422	0.0000640	0.00205	0.000143	0.0253	0.000520	0.00459	0.00102	0.000988	0.000457	0.00000514	0.000429	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000407	0.0000787	0.00231	0.00000664	0.0000362	ND	0.000152	0.0359	ND	0.00330	0.00118	0.00104	0.000349	0.00000416	0.000384	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000107	0.000698	0.00397	0.0000122	0.0000844	0.00222	0.000335	0.0242	0.000813	0.0117	0.00123	0.00127	0.000433	0.00000471	0.000934	ND

95% Upper Confidence Limit[2]		NA	0.000120	0.000450	0.00764	0.0000160	0.000338	0.00350	0.000470	0.0510	0.00076	0.0145	0.00189	0.00193	0.00134	0.0000140	0.00193	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
New Year's Holiday Observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 2 through January 8, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/2/2025	AM-02	WW Pump Station #4	0.9	SE	77	66	762.3
1/2/2025	AM-03	Lahaina Intermediate School	1.1	SE	76	67	753.5
1/2/2025	AM-05	Opukea Townhomes	0.9	SSE	78	66	762.6
1/2/2025	AM-08	Lahaina Pump Station #6	1.4	SSE	77	65	762.4
1/3/2024	AM-02	WW Pump Station #4	0.8	SSE	77	64	762.3
1/3/2024	AM-03	Lahaina Intermediate School	1.2	SSE	76	65	753.5
1/3/2024	AM-05	Opukea Townhomes	0.8	SE	78	64	762.6
1/3/2024	AM-08	Lahaina Pump Station #6	1.4	SSE	77	62	762.4
1/4/2025	AM-02	WW Pump Station #4	0.8	SE	76	65	762.0
1/4/2025	AM-03	Lahaina Intermediate School	1.0	SE	75	65	753.3
1/4/2025	AM-05	Opukea Townhomes	1.1	S	77	65	762.4
1/4/2025	AM-08	Lahaina Pump Station #6	1.6	SE	76	62	762.2
1/5/2025	AM-02	WW Pump Station #4	1.1	SE	76	71	761.6
1/5/2025	AM-03	Lahaina Intermediate School	1.7	SSE	76	71	752.9
1/5/2025	AM-05	Opukea Townhomes	1.7	S	77	72	761.9
1/5/2025	AM-08	Lahaina Pump Station #6	2.0	SE	76	70	761.8
1/6/2025	AM-02	WW Pump Station #4	1.2	SSE	77	82	761.5
1/6/2025	AM-03	Lahaina Intermediate School	2.0	SSE	75	87	752.9
1/6/2025	AM-05	Opukea Townhomes	2.3	S	77	84	761.9
1/6/2025	AM-08	Lahaina Pump Station #6	2.8	S	77	81	761.8
1/7/2025	AM-02	WW Pump Station #4	1.7	S	77	75	761.6
1/7/2025	AM-03	Lahaina Intermediate School	3.2	SSE	76	77	752.9
1/7/2025	AM-05	Opukea Townhomes	3.3	S	77	76	762.0
1/7/2025	AM-08	Lahaina Pump Station #6	4.1	S	77	75	761.8
1/8/2025	AM-02	WW Pump Station #4	1.1	SE	76	69	763.7
1/8/2025	AM-03	Lahaina Intermediate School	1.7	SE	75	68	755.0
1/8/2025	AM-05	Opukea Townhomes	1.6	S	76	69	764.1
1/8/2025	AM-08	Lahaina Pump Station #6	2.0	SE	76	67	764.0

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010225-AB**		**Sample Description:**	**DL698360**
EMSL Sample Number:	042500171-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0001 **Customer Sample:** MFL-FB01-010225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A1	None Detected									
A5	C3	None Detected									
A5	E4	None Detected									
A5	G6	None Detected									
A5	I6	None Detected									
A6	J2	None Detected									
A6	H4	None Detected									
A6	F10	None Detected									
A6	D9	None Detected									
A6	B10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010325-AB**		**Sample Description:**	**DL698019**
EMSL Sample Number:	042500171-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0002 **Customer Sample:** MFL-AM05-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I3	None Detected									
B2	E7	None Detected									
B2	B7	None Detected									
B3	H6	None Detected									
B3	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010325-AB**		**Sample Description:**	**DL698514**
EMSL Sample Number:	042500171-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7303.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0003 **Customer Sample:** MFL-AM02-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B3	None Detected									
B5	E4	None Detected									
B5	G5	None Detected									
B6	B3	None Detected									
B6	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010325-AB**	**Sample Description:**	**DL698484**
EMSL Sample Number:	042500171-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7461.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0004 **Customer Sample:** MFL-AM03-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A3	None Detected									
C2	F7	None Detected									
C2	H10	None Detected									
C3	B9	None Detected									
C3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/10/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010325-AB**		**Sample Description:**	**DL914461**
EMSL Sample Number:	042500171-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7522.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0005 **Customer Sample:** MFL-AM08-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B5	None Detected									
C5	E1	None Detected									
C5	I2	None Detected									
C6	I8	None Detected									
C6	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	01/10/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010325-AB**		**Sample Description:**	**DL914460**
EMSL Sample Number:	042500171-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042500171**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0006 **Customer Sample:** MFL-FB01-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A1	None Detected									
D2	A2	None Detected									
D2	E1	None Detected									
D2	G4	None Detected									
D2	I5	None Detected									
D3	J10	None Detected									
D3	H8	None Detected									
D3	F4	None Detected									
D3	D8	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010425-AB**		**Sample Description:**	**DL914512**
EMSL Sample Number:	042500171-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7342.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0007 **Customer Sample:** MFL-AM05-010425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	J9	None Detected									
D6	G8	None Detected									
D6	E7	None Detected									
D7	E3	None Detected									
D7	I1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010425-AB**		**Sample Description:**	**DL914500**
EMSL Sample Number:	042500171-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6728.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0008 **Customer Sample:** MFL-AM02-010425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C1	None Detected									
E1	F3	None Detected									
E1	G1	None Detected									
E2	C1	None Detected									
E2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500171
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010425-AB**		**Sample Description:**	**DL914474**
EMSL Sample Number:	042500171-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7119.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0009 **Customer Sample:** MFL-AM03-010425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B5	None Detected									
E5	E7	None Detected									
E5	H6	None Detected									
E6	I5	None Detected									
E6	E2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010425-AB**		**Sample Description:**	**DL914471**
EMSL Sample Number:	042500171-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7180.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0010 **Customer Sample:** MFL-AM08-010425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	H4	None Detected									
F2	F4	None Detected									
F2	D6	None Detected									
F3	I6	None Detected									
F3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010425-AB**		**Sample Description:**	**DL914486**
EMSL Sample Number:	042500171-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042500171**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0011 **Customer Sample:** MFL-FB01-010425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J8	None Detected									
F5	H10	None Detected									
F5	F7	None Detected									
F5	D7	None Detected									
F5	C4	None Detected									
F6	J10	None Detected									
F6	H8	None Detected									
F6	F7	None Detected									
F6	E9	None Detected									
F6	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010525-AB**		**Sample Description:**	**DL914522**
EMSL Sample Number:	042500171-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7263.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0012 **Customer Sample:** MFL-AM05-010525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B4	None Detected									
G2	E2	None Detected									
G2	H4	None Detected									
G3	H8	None Detected									
G3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010525-AB**		**Sample Description:**	**DL914480**
EMSL Sample Number:	042500171-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0013 **Customer Sample:** MFL-AM02-010525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J5	None Detected									
G5	H7	None Detected									
G5	C9	None Detected									
G6	F10	None Detected									
G6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010525-AB**		**Sample Description:**	**DL914492**
EMSL Sample Number:	042500171-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7298.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0014 **Customer Sample:** MFL-AM03-010525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A6	None Detected									
H1	E4	None Detected									
H1	J4	None Detected									
H2	D5	None Detected									
H2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010525-AB**		**Sample Description:**	**DL914476**
EMSL Sample Number:	042500171-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7327.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0015 **Customer Sample:** MFL-AM08-010525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B9	None Detected									
H5	D7	None Detected									
H5	E4	None Detected									
H6	G7	None Detected									
H6	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010525-AB**		**Sample Description:**	**DL914487**
EMSL Sample Number:	042500171-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042500171**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0016 **Customer Sample:** MFL-FB01-010525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J7	None Detected									
I2	H4	None Detected									
I2	F6	None Detected									
I2	D6	None Detected									
I2	B3	None Detected									
I3	A1	None Detected									
I3	C6	None Detected									
I3	E4	None Detected									
I3	G5	None Detected									
I3	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-010325-AB**		**Sample Description:**	**DL914524**
EMSL Sample Number:	042500171-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0017 **Customer Sample:** MFL-LB01-010325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	H10	None Detected									
I5	F7	None Detected									
I5	D4	None Detected									
I5	B4	None Detected									
I6	A3	None Detected									
I6	C7	None Detected									
I6	E2	None Detected									
I6	H8	None Detected									
I6	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500171
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/08/2025 09:30 AM
Analysis Date:	01/10/2025
Report Date:	01/13/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042500171-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500171
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500171-0018 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J10	None Detected									
A2	H8	None Detected									
A2	F9	None Detected									
A2	D6	None Detected									
A2	B6	None Detected									
A3	A1	None Detected									
A3	C5	None Detected									
A3	E1	None Detected									
A3	G3	None Detected									
A3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042500171

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 25 JAN -8 AM 9:47

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Itai Bojdak-Yates
Sampled By Signature:
No. of Samples in Shipment: 17

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-FB01-010225-AB	DL698360	0	01/02/25 1200
MFL-AM05-010325-AB	DL698019	7195.652	01/03/25 1051
MFL-AM02-010325-AB	DL698514	7303.619	01/03/25 1108
MFL-AM03-010325-AB	DL698484	7461.870	01/03/25 1251
MFL-AM08-010325-AB	DL914461	7522.741	01/03/25 1313
MFL-FB01-010325-AB	DL914460	0	01/03/25 1200
MFL-AM05-010425-AB	DL914512	7341.997	01/04/25 1051
MFL-AM02-010425-AB	DL914500	6728.555	01/04/25 1108

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

17

Method of Shipment: Fed Ex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 01/06/24 1100
Received by: FedEx Date/Time 1/8/25 9:30A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042500171

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03-010425-AB	DL914474	7119.473	01/04/25 1251
MFL-AM08-010425-AB	DL914471	7180.190	01/04/25 1311
MFL-FB01-010425-AB	DL914486	0	01/04/25 1200
MFL-AM05-010525-AB	DL914522	7263.338	01/05/25 1053
MFL-AM02-010525-AB	DL914480	7198.678	01/05/25 1107
MFL-AM03-010525-AB	DL914492	7298.032	01/05/25 1253
MFL-AM08-010525-AB	DL914476	7327.550	01/05/25 1311
MFL-FB01-010525-AB	DL914487	0	01/05/25 1200
MFL-LB01-010325-AB	DL914524	0	01/03/25 1205

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN -8 AM 9:47

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 01/06/24 1100	Received by: Fedex	Date/Time 1/8/25 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/13/2025 and Shanna Vasser 01/14/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/02/2025 – 01/05/2025
Report No: 42500171

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/15/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010625-AB**		**Sample Description:**	**DL914525**
EMSL Sample Number:	042500692-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7340.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0001 **Customer Sample:** MFL-AM05-010625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B4	None Detected									
A5	F7	None Detected									
A5	I4	None Detected									
A6	C3	None Detected									
A6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/15/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010625-AB**		**Sample Description:**	**DL914490**
EMSL Sample Number:	042500692-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7064.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0002 **Customer Sample:** MFL-AM02-010625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B7	None Detected									
B1	F4	None Detected									
B1	J7	None Detected									
B3	H6	None Detected									
B3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/15/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010625-AB**		**Sample Description:**	**DL914469**
EMSL Sample Number:	042500692-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0003 **Customer Sample:** MFL-AM03-010625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A5	None Detected									
B5	D8	None Detected									
B5	I4	None Detected									
B6	J7	None Detected									
B6	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010625-AB**		**Sample Description:**	**DL914523**
EMSL Sample Number:	042500692-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0004 **Customer Sample:** MFL-AM08-010625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A1	None Detected									
C2	D5	None Detected									
C2	H3	None Detected									
C3	H7	None Detected									
C3	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010625-AB**		**Sample Description:**	**DL914485**
EMSL Sample Number:	042500692-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0005 **Customer Sample:** MFL-FB01-010625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C6	A5	None Detected									
C6	C7	None Detected									
C6	E9	None Detected									
C6	G5	None Detected									
C6	I8	None Detected									
C7	I6	None Detected									
C7	G3	None Detected									
C7	E3	None Detected									
C7	C7	None Detected									
C7	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	01/14/2025 09:20 AM
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Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010725-AB**		**Sample Description:**	**DL914521**
EMSL Sample Number:	042500692-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0006 **Customer Sample:** MFL-AM05-010725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B4	None Detected									
D1	E2	None Detected									
D1	G4	None Detected									
D2	A10	None Detected									
D2	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010725-AB**		**Sample Description:**	**DL914513**
EMSL Sample Number:	042500692-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0007 **Customer Sample:** MFL-AM02-010725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I8	None Detected									
D5	F10	None Detected									
D5	D8	None Detected									
D6	G9	None Detected									
D6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010725-AB**		**Sample Description:**	**DL914483**
EMSL Sample Number:	042500692-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0008 **Customer Sample:** MFL-AM03-010725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I6	None Detected									
E1	F8	None Detected									
E1	C5	None Detected									
E2	I5	None Detected									
E2	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010725-AB**		**Sample Description:**	**DL914481**
EMSL Sample Number:	042500692-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0009 **Customer Sample:** MFL-AM08-010725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J5	None Detected									
E5	F2	None Detected									
E5	C4	None Detected									
E6	C7	None Detected									
E6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010725-AB**		**Sample Description:**	**DL914464**
EMSL Sample Number:	042500692-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0010 **Customer Sample:** MFL-FB01-010725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J8	None Detected									
F1	H5	None Detected									
F1	F2	None Detected									
F1	D1	None Detected									
F1	B4	None Detected									
F2	J3	None Detected									
F2	H1	None Detected									
F2	F4	None Detected									
F2	D2	None Detected									
F2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010825-AB**		**Sample Description:**	**DL914518**
EMSL Sample Number:	042500692-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7254.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0011 **Customer Sample:** MFL-AM05-010825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F6	B7	None Detected									
F6	D5	None Detected									
F6	G2	None Detected									
F7	H8	None Detected									
F7	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/16/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010825-AB**		**Sample Description:**	**DL914516**
EMSL Sample Number:	042500692-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7072.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0012 **Customer Sample:** MFL-AM02-010825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	C6	None Detected									
G1	F8	None Detected									
G1	H10	None Detected									
G2	B8	None Detected									
G2	D4	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010825-AB**		**Sample Description:**	**DL914477**
EMSL Sample Number:	042500692-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0013 **Customer Sample:** MFL-AM03-010825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B4	None Detected									
G5	E5	None Detected									
G5	H3	None Detected									
G6	B2	None Detected									
G6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010825-AB**		**Sample Description:**	**DL914482**
EMSL Sample Number:	042500692-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7468.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0014 **Customer Sample:** MFL-AM08-010825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B4	None Detected									
H1	E7	None Detected									
H1	G6	None Detected									
H2	E3	None Detected									
H2	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-010825-AB**		**Sample Description:**	**DL914506**
EMSL Sample Number:	042500692-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0015 **Customer Sample:** MFL-FB01-010825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A9	None Detected									
H5	H7	None Detected									
H5	F7	None Detected									
H5	D4	None Detected									
H5	B5	None Detected									
H6	A9	None Detected									
H6	C7	None Detected									
H6	E7	None Detected									
H6	G9	None Detected									
H6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500692
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/14/2025 09:20 AM
Analysis Date:	01/15/2025
Report Date:	01/16/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042500692-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500692
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500692-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J9	None Detected									
A1	G5	None Detected									
A1	D3	None Detected									
A1	A6	None Detected									
A2	I4	None Detected									
A2	G8	None Detected									
A2	A3	None Detected									
A3	H2	None Detected									
A3	F4	None Detected									
A3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042500692

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL:

RECEIVED EMSL CINNAMINSON, NJ 25 JAN 14 AM 9:39

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Itai Bojdak-Yates
Sampled By Signature:	
No. of Samples In Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-010625-AB	DL914525	7340.645	01/06/25 1058
MFL-AM02-010625-AB	DL914490	7064.496	01/06/25 1113
MFL-AM03-010625-AB	DL914469	7216.278	01/06/25 1249
MFL-AM08-010625-AB	DL914523	7251.688	01/06/25 1317
MFL-FB01-010625-AB	DL914485	0	01/06/25 1200
MFL-AM05-010725-AB	DL914521	7171.161	01/07/25 1051
MFL-AM02-010725-AB	DL914513	7128.628	01/07/25 1106
MFL-AM03-010725-AB	DL914483	7238.880	01/07/25 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 01/09/25 1100	Received by: FedEx	Date/Time 1/14/25 9:20A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042500692

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-010725-AB		DL9144481	7268.893	01/07/25 1313
MFL-FB01-010725-AB		DL9144464	0	01/07/25 1200
MFL-AM05-010825-AB		DL9145518	7254.319	01/08/25 1050
MFL-AM02-010825-AB		DL9145516	7072.559	01/08/25 1106
MFL-AM03-010825-AB		DL9144477	7211.010	01/08/25 1253
MFL-AM08-010825-AB		DL9144482	7468.559	01/08/25 1310
MFL-FB01-010825-AB		DL9145506	0	01/08/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 14 AM 9:39

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 01/09/25 1100	Received by: - FedEx	Date/Time 1/14/25 9:20A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/16/2025 and Shanna Vasser 01/17/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/06/2025 – 01/08/2025
Report No: 42500692

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

January 21, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/13/25 12:39.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-FB01-010225-HM	5011327-01	Air	01/02/25 00:00	01/13/25 12:39
MFL-AM05-010325-HM	5011327-02	Air	01/03/25 23:59	01/13/25 12:39
MFL-AM02-010325-HM	5011327-03	Air	01/03/25 23:59	01/13/25 12:39
MFL-AM03-010325-HM	5011327-04	Air	01/03/25 23:59	01/13/25 12:39
MFL-AM08-010325-HM	5011327-05	Air	01/03/25 23:59	01/13/25 12:39
MFL-AM05-010425-HM	5011327-06	Air	01/04/25 23:59	01/13/25 12:39
MFL-AM02-010425-HM	5011327-07	Air	01/04/25 23:59	01/13/25 12:39
MFL-AM03-010425-HM	5011327-08	Air	01/04/25 23:59	01/13/25 12:39
MFL-AM08-010425-HM	5011327-09	Air	01/04/25 23:59	01/13/25 12:39
MFL-FB01-010425-HM	5011327-10	Air	01/04/25 00:00	01/13/25 12:39
MFL-AM05-010525-HM	5011327-11	Air	01/05/25 23:59	01/13/25 12:39
MFL-AM02-010525-HM	5011327-12	Air	01/05/25 23:59	01/13/25 12:39
MFL-AM03-010525-HM	5011327-13	Air	01/05/25 23:59	01/13/25 12:39
MFL-AM08-010525-HM	5011327-14	Air	01/05/25 23:59	01/13/25 12:39
MFL-AM05-010625-HM	5011327-15	Air	01/06/25 23:59	01/13/25 12:39
MFL-AM02-010625-HM	5011327-16	Air	01/06/25 23:59	01/13/25 12:39
MFL-AM03-010625-HM	5011327-17	Air	01/06/25 23:59	01/13/25 12:39
MFL-AM08-010625-HM	5011327-18	Air	01/06/25 23:59	01/13/25 12:39
MFL-FB01-010625-HM	5011327-19	Air	01/06/25 00:00	01/13/25 12:39
MFL-AM05-010725-HM	5011327-20	Air	01/07/25 23:59	01/13/25 12:39
MFL-AM02-010725-HM	5011327-21	Air	01/07/25 23:59	01/13/25 12:39

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-010725-HM	5011327-22	Air	01/07/25 23:59	01/13/25 12:39
MFL-AM08-010725-HM	5011327-23	Air	01/07/25 23:59	01/13/25 12:39
MFL-AM05-010825-HM	5011327-24	Air	01/08/25 23:59	01/13/25 12:39
MFL-AM02-010825-HM	5011327-25	Air	01/08/25 23:59	01/13/25 12:39
MFL-AM03-010825-HM	5011327-26	Air	01/08/25 23:59	01/13/25 12:39
MFL-AM08-010825-HM	5011327-27	Air	01/08/25 23:59	01/13/25 12:39
MFL-FB01-010825-HM	5011327-28	Air	01/08/25 00:00	01/13/25 12:39
MFL-LB01-010325-HM	5011327-29	Air	01/03/25 00:00	01/13/25 12:39

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-010225-HM
Matrix: Air
Lab ID: 5011327-01
Sample Volume: 1967.731 m³
Filter ID:
Sampled: 01/02/25 00:00
Received: 01/13/25 12:39
Analysis Date: 01/15/25 00:47

Comments: Q8515136 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0148	SL, U	0.0289
Arsenic	7440-38-2	0.00341	U	0.00735
Barium	7440-39-3	0.966	U	1.27
Beryllium	7440-41-7	2.53E-4	U	0.00157
Cadmium	7440-43-9	7.27E-4	U	0.00423
Chromium	7440-47-3	0.997	U	2.02
Cobalt	7440-48-4	0.0108	U	0.0430
Copper	7440-50-8	0.544	U	0.622
Lead	7439-92-1	0.0331	U	0.111
Manganese	7439-96-5	0.273	QB-01, U	0.461
Molybdenum	7439-98-7	0.152	U	0.326
Nickel	7440-02-0	0.404	U	0.611
Selenium	7782-49-2	1.81E-4	U	0.00835
Thallium	7440-28-0	2.62E-4	U	7.12E-4
Vanadium	7440-62-2	0.0133	U	0.0379
Zinc	7440-66-6	3.76	U	94.3

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010325-HM
Matrix: Air
Lab ID: 5011327-02
Sample Volume: 1967.731 m³
Filter ID:
Sampled: 01/03/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 01:00

Comments: Q8515143 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.157**		**0.00735**
Barium	**7440-39-3**	**7.04**		**1.27**
Beryllium	**7440-41-7**	**0.00841**		**0.00157**
Cadmium	**7440-43-9**	**0.00738**		**0.00423**
Chromium	**7440-47-3**	**2.17**		**2.02**
Cobalt	**7440-48-4**	**0.334**		**0.0430**
Copper	**7440-50-8**	**42.6**		**0.622**
Lead	**7439-92-1**	**0.413**		**0.111**
Manganese	**7439-96-5**	**9.42**	QB-01	**0.461**
Molybdenum	**7439-98-7**	**2.42**		**0.326**
Nickel	**7440-02-0**	**1.31**		**0.611**
Selenium	**7782-49-2**	**0.222**		**0.00835**
Thallium	**7440-28-0**	**8.77E-4**		**7.12E-4**
Vanadium	**7440-62-2**	**1.55**		**0.0379**
Zinc	7440-66-6	11.7	U	94.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010325-HM
Matrix: Air
Lab ID: 5011327-03
Sample Volume: 2039.425 m³
Filter ID:
Sampled: 01/03/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/14/25 22:17

Comments: Q8515141 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.270**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.349**		**0.00709**
Barium	**7440-39-3**	**10.2**		**1.23**
Beryllium	**7440-41-7**	**0.0187**		**0.00152**
Cadmium	**7440-43-9**	**0.0143**		**0.00408**
Chromium	**7440-47-3**	**3.12**		**1.95**
Cobalt	**7440-48-4**	**0.663**		**0.0415**
Copper	**7440-50-8**	**33.0**		**0.600**
Lead	**7439-92-1**	**1.22**		**0.107**
Manganese	**7439-96-5**	**18.8**	QB-01	**0.444**
Molybdenum	**7439-98-7**	**1.80**		**0.314**
Nickel	**7440-02-0**	**1.90**		**0.590**
Selenium	**7782-49-2**	**0.266**		**0.00806**
Thallium	**7440-28-0**	**0.00119**		**6.87E-4**
Vanadium	**7440-62-2**	**2.60**		**0.0365**
Zinc	7440-66-6	20.2	U	90.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010325-HM
Matrix: Air
Lab ID: 5011327-04
Sample Volume: 1859.482 m³
Filter ID:
Sampled: 01/03/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 01:14

Comments: Q8515139 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0508**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.180**		**0.00778**
Barium	**7440-39-3**	**4.88**		**1.35**
Beryllium	**7440-41-7**	**0.0197**		**0.00166**
Cadmium	**7440-43-9**	**0.0160**		**0.00448**
Chromium	**7440-47-3**	**2.59**		**2.13**
Cobalt	**7440-48-4**	**0.415**		**0.0455**
Copper	**7440-50-8**	**87.5**		**0.658**
Lead	**7439-92-1**	**0.212**		**0.117**
Manganese	**7439-96-5**	**10.1**	QB-01	**0.487**
Molybdenum	**7439-98-7**	**2.50**		**0.345**
Nickel	**7440-02-0**	**1.38**		**0.647**
Selenium	**7782-49-2**	**0.205**		**0.00884**
Thallium	**7440-28-0**	**7.96E-4**		**7.53E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0401**
Zinc	7440-66-6	6.88	U	99.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010325-HM
Matrix: Air
Lab ID: 5011327-05
Sample Volume: 1928.773 m³
Filter ID:
Sampled: 01/03/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 01:28

Comments: Q8515138 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.290**		**0.00750**
Barium	**7440-39-3**	**4.89**		**1.30**
Beryllium	**7440-41-7**	**0.00933**		**0.00160**
Cadmium	**7440-43-9**	**0.0106**		**0.00432**
Chromium	**7440-47-3**	**2.28**		**2.06**
Cobalt	**7440-48-4**	**0.343**		**0.0439**
Copper	**7440-50-8**	**32.3**		**0.634**
Lead	**7439-92-1**	**0.486**		**0.113**
Manganese	**7439-96-5**	**9.45**	QB-01	**0.470**
Molybdenum	**7439-98-7**	**1.28**		**0.332**
Nickel	**7440-02-0**	**1.23**		**0.623**
Selenium	**7782-49-2**	**0.212**		**0.00852**
Thallium	**7440-28-0**	**7.50E-4**		**7.26E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0386**
Zinc	7440-66-6	12.8	U	96.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010425-HM
Matrix: Air
Lab ID: 5011327-06
Sample Volume: 1950.381 m³
Filter ID:
Sampled: 01/04/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 01:42

Comments: Q8515135 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.535**		**0.00742**
Barium	**7440-39-3**	**9.43**		**1.28**
Beryllium	**7440-41-7**	**0.0269**		**0.00158**
Cadmium	**7440-43-9**	**0.136**		**0.00427**
Chromium	**7440-47-3**	**3.41**		**2.04**
Cobalt	**7440-48-4**	**0.847**		**0.0434**
Copper	**7440-50-8**	**49.3**		**0.627**
Lead	**7439-92-1**	**0.628**		**0.112**
Manganese	**7439-96-5**	**31.0**	QB-01	**0.465**
Molybdenum	**7439-98-7**	**2.57**		**0.329**
Nickel	**7440-02-0**	**1.80**		**0.616**
Selenium	**7782-49-2**	**1.11**		**0.00843**
Thallium	**7440-28-0**	**0.00859**		**7.18E-4**
Vanadium	**7440-62-2**	**2.80**		**0.0382**
Zinc	7440-66-6	27.0	U	95.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010425-HM
Matrix: Air
Lab ID: 5011327-07
Sample Volume: 2050.583 m³
Filter ID:
Sampled: 01/04/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 01:57

Comments: Q8515133 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.305**		**0.00705**
Barium	**7440-39-3**	**7.33**		**1.22**
Beryllium	**7440-41-7**	**0.0142**		**0.00151**
Cadmium	**7440-43-9**	**0.113**		**0.00406**
Chromium	**7440-47-3**	**2.52**		**1.94**
Cobalt	**7440-48-4**	**0.471**		**0.0413**
Copper	**7440-50-8**	**41.7**		**0.597**
Lead	**7439-92-1**	**0.909**		**0.106**
Manganese	**7439-96-5**	**13.3**	QB-01	**0.442**
Molybdenum	**7439-98-7**	**1.88**		**0.313**
Nickel	**7440-02-0**	**1.53**		**0.586**
Selenium	**7782-49-2**	**1.03**		**0.00801**
Thallium	**7440-28-0**	**0.00715**		**6.83E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0363**
Zinc	7440-66-6	16.8	U	90.5

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010425-HM
Matrix: Air
Lab ID: 5011327-08
Sample Volume: 1854.825 m³
Filter ID:
Sampled: 01/04/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 02:11

Comments: Q8515132 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0484**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.173**		**0.00780**
Barium	**7440-39-3**	**3.82**		**1.35**
Beryllium	**7440-41-7**	**0.0135**		**0.00167**
Cadmium	**7440-43-9**	**0.129**		**0.00449**
Chromium	**7440-47-3**	**2.25**		**2.14**
Cobalt	**7440-48-4**	**0.343**		**0.0456**
Copper	**7440-50-8**	**90.5**		**0.660**
Lead	**7439-92-1**	**0.224**		**0.118**
Manganese	**7439-96-5**	**8.03**	QB-01	**0.489**
Molybdenum	**7439-98-7**	**2.49**		**0.346**
Nickel	**7440-02-0**	**1.40**		**0.648**
Selenium	**7782-49-2**	**1.13**		**0.00886**
Thallium	**7440-28-0**	**0.00788**		**7.55E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0402**
Zinc	7440-66-6	12.1	U	100

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010425-HM
Matrix: Air
Lab ID: 5011327-09
Sample Volume: 1945.017 m³
Filter ID:
Sampled: 01/04/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 02:25

Comments: Q8515131 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.364**		**0.00744**
Barium	**7440-39-3**	**3.47**		**1.29**
Beryllium	**7440-41-7**	**0.00786**		**0.00159**
Cadmium	**7440-43-9**	**0.146**		**0.00428**
Chromium	7440-47-3	2.02	U	2.04
Cobalt	**7440-48-4**	**0.278**		**0.0435**
Copper	**7440-50-8**	**32.3**		**0.629**
Lead	**7439-92-1**	**0.581**		**0.112**
Manganese	**7439-96-5**	**7.99**	QB-01	**0.466**
Molybdenum	**7439-98-7**	**1.35**		**0.330**
Nickel	**7440-02-0**	**1.38**		**0.618**
Selenium	**7782-49-2**	**1.26**		**0.00845**
Thallium	**7440-28-0**	**0.00971**		**7.20E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0383**
Zinc	7440-66-6	12.5	U	95.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-010425-HM
Matrix: Air
Lab ID: 5011327-10
Sample Volume: 1950.381 m³
Filter ID:
Sampled: 01/04/25 00:00
Received: 01/13/25 12:39
Analysis Date: 01/15/25 02:39

Comments: Q8515128 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0149	SL, U	0.0292
Arsenic	7440-38-2	0.00660	U	0.00742
Barium	7440-39-3	0.991	U	1.28
Beryllium	7440-41-7	2.29E-4	U	0.00158
Cadmium	7440-43-9	5.90E-4	U	0.00427
Chromium	7440-47-3	1.24	U	2.04
Cobalt	7440-48-4	0.0109	U	0.0434
Copper	7440-50-8	0.427	U	0.627
Lead	7439-92-1	0.0235	U	0.112
Manganese	7439-96-5	0.304	QB-01, U	0.465
Molybdenum	7439-98-7	0.167	U	0.329
Nickel	7440-02-0	0.376	U	0.616
Selenium	7782-49-2	0.00106	U	0.00843
Thallium	7440-28-0	1.00E-4	U	7.18E-4
Vanadium	7440-62-2	0.0343	U	0.0382
Zinc	7440-66-6	5.64	U	95.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010525-HM
Matrix: Air
Lab ID: 5011327-11
Sample Volume: 1952.833 m³
Filter ID:
Sampled: 01/05/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/14/25 18:23

Comments: Q8515130 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.973**		**0.00741**
Barium	**7440-39-3**	**10.1**		**1.28**
Beryllium	**7440-41-7**	**0.0420**		**0.00158**
Cadmium	**7440-43-9**	**0.376**		**0.00427**
Chromium	**7440-47-3**	**4.60**		**2.03**
Cobalt	**7440-48-4**	**1.31**	A-01	**0.0433**
Copper	**7440-50-8**	**54.0**		**0.627**
Lead	**7439-92-1**	**1.14**		**0.112**
Manganese	**7439-96-5**	**48.8**	A-01, QB-01, QM-07	**0.464**
Molybdenum	**7439-98-7**	**2.15**		**0.328**
Nickel	**7440-02-0**	**2.97**		**0.616**
Selenium	**7782-49-2**	**2.90**		**0.00841**
Thallium	**7440-28-0**	**0.0266**		**7.17E-4**
Vanadium	**7440-62-2**	**4.98**		**0.0382**
Zinc	7440-66-6	29.7	U	95.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010525-HM
Matrix: Air
Lab ID: 5011327-12
Sample Volume: 2044.575 m³
Filter ID:
Sampled: 01/05/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 02:53

Comments: Q8515129 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.658**		**0.00707**
Barium	**7440-39-3**	**44.0**		**1.23**
Beryllium	**7440-41-7**	**0.0231**		**0.00151**
Cadmium	**7440-43-9**	**0.356**		**0.00407**
Chromium	**7440-47-3**	**4.03**		**1.94**
Cobalt	**7440-48-4**	**0.663**		**0.0414**
Copper	**7440-50-8**	**85.4**		**0.598**
Lead	**7439-92-1**	**1.53**		**0.107**
Manganese	**7439-96-5**	**21.6**	QB-01	**0.443**
Molybdenum	**7439-98-7**	**2.03**		**0.314**
Nickel	**7440-02-0**	**2.33**		**0.588**
Selenium	**7782-49-2**	**2.96**		**0.00804**
Thallium	**7440-28-0**	**0.0232**		**6.85E-4**
Vanadium	**7440-62-2**	**3.15**		**0.0364**
Zinc	7440-66-6	26.3	U	90.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010525-HM
Matrix: Air
Lab ID: 5011327-13
Sample Volume: 1876.948 m³
Filter ID:
Sampled: 01/05/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 04:19

Comments: Q8515127 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0348**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.228**		**0.00771**
Barium	**7440-39-3**	**2.59**	LJ, QX	**1.33**
Beryllium	**7440-41-7**	**0.0109**		**0.00165**
Cadmium	**7440-43-9**	**0.305**		**0.00444**
Chromium	7440-47-3	1.94	U	2.12
Cobalt	**7440-48-4**	**0.246**		**0.0451**
Copper	**7440-50-8**	**87.7**		**0.652**
Lead	**7439-92-1**	**0.290**		**0.116**
Manganese	**7439-96-5**	**5.69**	QB-01	**0.483**
Molybdenum	**7439-98-7**	**2.35**		**0.342**
Nickel	**7440-02-0**	**1.17**		**0.641**
Selenium	**7782-49-2**	**2.31**		**0.00876**
Thallium	**7440-28-0**	**0.0214**		**7.46E-4**
Vanadium	**7440-62-2**	**0.997**		**0.0397**
Zinc	7440-66-6	14.6	U	98.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010525-HM
Matrix: Air
Lab ID: 5011327-14
Sample Volume: 1928.773 m³
Filter ID:
Sampled: 01/05/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 04:37

Comments: Q8515126 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0762**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.527**		**0.00750**
Barium	**7440-39-3**	**2.94**	LJ, QX	**1.30**
Beryllium	**7440-41-7**	**0.00750**		**0.00160**
Cadmium	**7440-43-9**	**0.336**		**0.00432**
Chromium	**7440-47-3**	**2.10**		**2.06**
Cobalt	**7440-48-4**	**0.295**		**0.0439**
Copper	**7440-50-8**	**24.6**		**0.634**
Lead	**7439-92-1**	**0.681**		**0.113**
Manganese	**7439-96-5**	**8.14**	QB-01	**0.470**
Molybdenum	**7439-98-7**	**1.26**		**0.332**
Nickel	**7440-02-0**	**1.07**		**0.623**
Selenium	**7782-49-2**	**2.69**		**0.00852**
Thallium	**7440-28-0**	**0.0243**		**7.26E-4**
Vanadium	**7440-62-2**	**0.944**		**0.0386**
Zinc	7440-66-6	14.6	U	96.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010625-HM
Matrix: Air
Lab ID: 5011327-15
Sample Volume: 1961.821 m³
Filter ID:
Sampled: 01/06/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 04:54

Comments: Q8515125 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0678**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.208**		**0.00737**
Barium	**7440-39-3**	**2.75**	LJ, QX	**1.28**
Beryllium	**7440-41-7**	**0.00297**		**0.00158**
Cadmium	**7440-43-9**	**0.0895**		**0.00425**
Chromium	7440-47-3	1.65	U	2.02
Cobalt	**7440-48-4**	**0.131**		**0.0431**
Copper	**7440-50-8**	**36.7**		**0.624**
Lead	**7439-92-1**	**0.431**		**0.111**
Manganese	**7439-96-5**	**4.09**	QB-01	**0.462**
Molybdenum	**7439-98-7**	**1.69**		**0.327**
Nickel	**7440-02-0**	**0.951**		**0.613**
Selenium	**7782-49-2**	**0.545**		**0.00838**
Thallium	**7440-28-0**	**0.00317**		**7.14E-4**
Vanadium	**7440-62-2**	**0.325**		**0.0380**
Zinc	7440-66-6	17.0	U	94.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010625-HM
Matrix: Air
Lab ID: 5011327-16
Sample Volume: 2042.315 m³
Filter ID:
Sampled: 01/06/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 05:08

Comments: Q8515122 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.205**		**0.00708**
Barium	**7440-39-3**	**3.05**	LJ, QX	**1.23**
Beryllium	**7440-41-7**	**0.00475**		**0.00151**
Cadmium	**7440-43-9**	**0.0558**		**0.00408**
Chromium	7440-47-3	1.55	U	1.94
Cobalt	**7440-48-4**	**0.177**		**0.0414**
Copper	**7440-50-8**	**40.9**		**0.599**
Lead	**7439-92-1**	**0.618**		**0.107**
Manganese	**7439-96-5**	**5.23**	QB-01	**0.444**
Molybdenum	**7439-98-7**	**1.40**		**0.314**
Nickel	**7440-02-0**	**0.856**		**0.589**
Selenium	**7782-49-2**	**0.551**		**0.00805**
Thallium	**7440-28-0**	**0.00302**		**6.86E-4**
Vanadium	**7440-62-2**	**0.468**		**0.0365**
Zinc	7440-66-6	17.1	U	90.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010625-HM
Matrix: Air
Lab ID: 5011327-17
Sample Volume: 1832.702 m³
Filter ID:
Sampled: 01/06/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 05:22

Comments: Q8515120 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0434**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.0778**		**0.00789**
Barium	**7440-39-3**	**2.17**	LJ, QX	**1.37**
Beryllium	**7440-41-7**	**0.00603**		**0.00169**
Cadmium	**7440-43-9**	**0.0695**		**0.00455**
Chromium	**7440-47-3**	**4.91**		**2.17**
Cobalt	**7440-48-4**	**0.242**		**0.0462**
Copper	**7440-50-8**	**37.0**		**0.668**
Lead	**7439-92-1**	**0.176**		**0.119**
Manganese	**7439-96-5**	**4.47**	QB-01	**0.494**
Molybdenum	**7439-98-7**	**1.46**		**0.350**
Nickel	**7440-02-0**	**4.69**		**0.656**
Selenium	**7782-49-2**	**0.341**		**0.00897**
Thallium	**7440-28-0**	**0.00168**		**7.64E-4**
Vanadium	**7440-62-2**	**0.266**		**0.0407**
Zinc	7440-66-6	29.6	U	101

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010625-HM
Matrix: Air
Lab ID: 5011327-18
Sample Volume: 1915.591 m³
Filter ID:
Sampled: 01/06/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 05:49

Comments: Q8515119 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.152**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.389**		**0.00755**
Barium	**7440-39-3**	**2.11**	LJ, QX	**1.31**
Beryllium	**7440-41-7**	**0.00331**		**0.00161**
Cadmium	**7440-43-9**	**0.0596**		**0.00435**
Chromium	7440-47-3	1.84	U	2.07
Cobalt	**7440-48-4**	**0.156**		**0.0442**
Copper	**7440-50-8**	**35.2**		**0.639**
Lead	**7439-92-1**	**0.435**		**0.114**
Manganese	**7439-96-5**	**4.39**	QB-01	**0.473**
Molybdenum	**7439-98-7**	**1.69**		**0.335**
Nickel	**7440-02-0**	**1.16**		**0.628**
Selenium	**7782-49-2**	**0.312**		**0.00858**
Thallium	**7440-28-0**	**0.00156**		**7.31E-4**
Vanadium	**7440-62-2**	**0.309**		**0.0389**
Zinc	7440-66-6	19.7	U	96.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-010625-HM
Matrix: Air
Lab ID: 5011327-19
Sample Volume: 1961.821 m³
Filter ID:
Sampled: 01/06/25 00:00
Received: 01/13/25 12:39
Analysis Date: 01/15/25 06:03

Comments: Q8515110 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0148	SL, U	0.0290
Arsenic	7440-38-2	0.00454	U	0.00737
Barium	**7440-39-3**	**1.66**	FB-01, LJ, QX	**1.28**
Beryllium	7440-41-7	1.06E-4	U	0.00158
Cadmium	7440-43-9	6.48E-4	U	0.00425
Chromium	7440-47-3	0.986	U	2.02
Cobalt	7440-48-4	0.00971	U	0.0431
Copper	7440-50-8	0.283	U	0.624
Lead	7439-92-1	0.0263	U	0.111
Manganese	7439-96-5	0.157	QB-01, U	0.462
Molybdenum	7439-98-7	0.148	U	0.327
Nickel	7440-02-0	0.378	U	0.613
Selenium	7782-49-2	0.00153	U	0.00838
Thallium	7440-28-0	9.29E-5	U	7.14E-4
Vanadium	7440-62-2	0.0269	U	0.0380
Zinc	7440-66-6	3.56	U	94.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010725-HM
Matrix: Air
Lab ID: 5011327-20
Sample Volume: 1924.894 m³
Filter ID:
Sampled: 01/07/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 06:17

Comments: Q8515115 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0737**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.216**		**0.00751**
Barium	**7440-39-3**	**2.74**	LJ, QX	**1.30**
Beryllium	**7440-41-7**	**0.00231**		**0.00161**
Cadmium	**7440-43-9**	**0.0179**		**0.00433**
Chromium	**7440-47-3**	**3.56**		**2.06**
Cobalt	**7440-48-4**	**0.214**		**0.0440**
Copper	**7440-50-8**	**22.2**		**0.636**
Lead	**7439-92-1**	**0.507**		**0.113**
Manganese	**7439-96-5**	**3.34**	QB-01	**0.471**
Molybdenum	**7439-98-7**	**1.13**		**0.333**
Nickel	**7440-02-0**	**3.87**		**0.625**
Selenium	**7782-49-2**	**0.197**		**0.00854**
Thallium	**7440-28-0**	**9.46E-4**		**7.28E-4**
Vanadium	**7440-62-2**	**0.312**		**0.0387**
Zinc	7440-66-6	20.7	U	96.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010725-HM
Matrix: Air
Lab ID: 5011327-21
Sample Volume: 2010.26 m³
Filter ID:
Sampled: 01/07/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 06:31

Comments: Q8515112 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0544**	SL	**0.0283**
Arsenic	**7440-38-2**	**0.159**		**0.00720**
Barium	**7440-39-3**	**2.74**	LJ, QX	**1.25**
Beryllium	**7440-41-7**	**0.00174**		**0.00154**
Cadmium	**7440-43-9**	**0.00992**		**0.00414**
Chromium	7440-47-3	1.15	U	1.97
Cobalt	**7440-48-4**	**0.0617**		**0.0421**
Copper	**7440-50-8**	**28.3**		**0.609**
Lead	**7439-92-1**	**0.196**		**0.108**
Manganese	**7439-96-5**	**1.69**	QB-01	**0.451**
Molybdenum	**7439-98-7**	**1.26**		**0.319**
Nickel	7440-02-0	0.582	U	0.598
Selenium	**7782-49-2**	**0.210**		**0.00817**
Thallium	**7440-28-0**	**0.00109**		**6.97E-4**
Vanadium	**7440-62-2**	**0.242**		**0.0371**
Zinc	7440-66-6	14.6	U	92.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010725-HM **Lab ID:** 5011327-22 **Sampled:** 01/07/25 23:59
Matrix: Air **Sample Volume:** 1835.769 m³ **Received:** 01/13/25 12:39
Filter ID: **Analysis Date:** 01/15/25 07:54

Comments: Q8515111 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0571**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.105**		**0.00788**
Barium	**7440-39-3**	**2.52**	LJ, QX	**1.36**
Beryllium	**7440-41-7**	**0.00489**		**0.00168**
Cadmium	**7440-43-9**	**0.0245**		**0.00454**
Chromium	7440-47-3	1.71	U	2.16
Cobalt	**7440-48-4**	**0.133**		**0.0461**
Copper	**7440-50-8**	**32.5**		**0.666**
Lead	**7439-92-1**	**0.161**		**0.119**
Manganese	**7439-96-5**	**3.40**	QB-01	**0.494**
Molybdenum	**7439-98-7**	**1.31**		**0.349**
Nickel	**7440-02-0**	**1.25**		**0.655**
Selenium	**7782-49-2**	**0.207**		**0.00895**
Thallium	**7440-28-0**	**0.00141**		**7.63E-4**
Vanadium	**7440-62-2**	**0.342**		**0.0406**
Zinc	7440-66-6	16.9	U	101

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010725-HM
Matrix: Air
Lab ID: 5011327-23
Sample Volume: 1924.74 m³
Filter ID:
Sampled: 01/07/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 08:07

Comments: Q8515109 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0743**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.425**		**0.00751**
Barium	**7440-39-3**	**2.24**	LJ, QX	**1.30**
Beryllium	**7440-41-7**	**0.00467**		**0.00161**
Cadmium	**7440-43-9**	**0.892**		**0.00433**
Chromium	7440-47-3	1.63	U	2.06
Cobalt	**7440-48-4**	**0.139**		**0.0440**
Copper	**7440-50-8**	**33.7**		**0.636**
Lead	**7439-92-1**	**0.381**		**0.113**
Manganese	**7439-96-5**	**4.74**	QB-01	**0.471**
Molybdenum	**7439-98-7**	**1.64**		**0.333**
Nickel	**7440-02-0**	**0.731**		**0.625**
Selenium	**7782-49-2**	**0.223**		**0.00854**
Thallium	**7440-28-0**	**0.00159**		**7.28E-4**
Vanadium	**7440-62-2**	**0.396**		**0.0387**
Zinc	7440-66-6	14.0	U	96.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010825-HM
Matrix: Air
Lab ID: 5011327-24
Sample Volume: 1869.509 m³
Filter ID:
Sampled: 01/08/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 08:22

Comments: Q8515108 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0812**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.329**		**0.00774**
Barium	**7440-39-3**	**3.48**	LJ, QX	**1.34**
Beryllium	**7440-41-7**	**0.00396**		**0.00165**
Cadmium	**7440-43-9**	**0.0471**		**0.00446**
Chromium	7440-47-3	1.75	U	2.12
Cobalt	**7440-48-4**	**0.157**		**0.0453**
Copper	**7440-50-8**	**30.3**		**0.654**
Lead	**7439-92-1**	**0.550**		**0.117**
Manganese	**7439-96-5**	**4.29**	QB-01	**0.485**
Molybdenum	**7439-98-7**	**1.63**		**0.343**
Nickel	**7440-02-0**	**0.824**		**0.643**
Selenium	**7782-49-2**	**0.456**		**0.00879**
Thallium	**7440-28-0**	**0.00530**		**7.49E-4**
Vanadium	**7440-62-2**	**0.427**		**0.0399**
Zinc	7440-66-6	27.2	U	99.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010825-HM
Matrix: Air
Lab ID: 5011327-25
Sample Volume: 2030.407 m³
Filter ID:
Sampled: 01/08/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 08:36

Comments: Q8515106 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0942**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.329**		**0.00712**
Barium	**7440-39-3**	**6.78**	LJ, QX	**1.23**
Beryllium	**7440-41-7**	**0.00422**		**0.00152**
Cadmium	**7440-43-9**	**0.0640**		**0.00410**
Chromium	**7440-47-3**	**2.05**		**1.96**
Cobalt	**7440-48-4**	**0.143**		**0.0417**
Copper	**7440-50-8**	**25.3**		**0.603**
Lead	**7439-92-1**	**0.520**		**0.107**
Manganese	**7439-96-5**	**4.59**	QB-01	**0.446**
Molybdenum	**7439-98-7**	**1.02**		**0.316**
Nickel	**7440-02-0**	**0.988**		**0.592**
Selenium	**7782-49-2**	**0.457**		**0.00809**
Thallium	**7440-28-0**	**0.00514**		**6.90E-4**
Vanadium	**7440-62-2**	**0.429**		**0.0367**
Zinc	7440-66-6	16.6	U	91.4

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010825-HM
Matrix: Air
Lab ID: 5011327-26
Sample Volume: 1832.702 m³
Filter ID:
Sampled: 01/08/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 08:49

Comments: Q8515105 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0407**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.0787**		**0.00789**
Barium	**7440-39-3**	**2.31**	LJ, QX	**1.37**
Beryllium	**7440-41-7**	**0.00664**		**0.00169**
Cadmium	**7440-43-9**	**0.0362**		**0.00455**
Chromium	7440-47-3	1.69	U	2.17
Cobalt	**7440-48-4**	**0.152**		**0.0462**
Copper	**7440-50-8**	**35.9**		**0.668**
Lead	7439-92-1	0.111	U	0.119
Manganese	**7439-96-5**	**3.30**	QB-01	**0.494**
Molybdenum	**7439-98-7**	**1.18**		**0.350**
Nickel	**7440-02-0**	**1.04**		**0.656**
Selenium	**7782-49-2**	**0.349**		**0.00897**
Thallium	**7440-28-0**	**0.00416**		**7.64E-4**
Vanadium	**7440-62-2**	**0.384**		**0.0407**
Zinc	7440-66-6	11.2	U	101

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REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010825-HM
Matrix: Air
Lab ID: 5011327-27
Sample Volume: 1944.201 m³
Filter ID:
Sampled: 01/08/25 23:59
Received: 01/13/25 12:39
Analysis Date: 01/15/25 09:03

Comments: Q8515102 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.698**		**0.00744**
Barium	**7440-39-3**	**3.97**	LJ, QX	**1.29**
Beryllium	**7440-41-7**	**0.0122**		**0.00159**
Cadmium	**7440-43-9**	**0.0844**		**0.00428**
Chromium	**7440-47-3**	**2.22**		**2.04**
Cobalt	**7440-48-4**	**0.335**		**0.0435**
Copper	**7440-50-8**	**24.2**		**0.629**
Lead	**7439-92-1**	**0.813**		**0.112**
Manganese	**7439-96-5**	**11.7**	QB-01	**0.466**
Molybdenum	**7439-98-7**	**1.23**		**0.330**
Nickel	**7440-02-0**	**1.27**		**0.618**
Selenium	**7782-49-2**	**0.433**		**0.00845**
Thallium	**7440-28-0**	**0.00471**		**7.21E-4**
Vanadium	**7440-62-2**	**0.934**		**0.0383**
Zinc	7440-66-6	16.8	U	95.4

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REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-010825-HM
Matrix: Air
Lab ID: 5011327-28
Sample Volume: 1869.509 m³
Filter ID:
Sampled: 01/08/25 00:00
Received: 01/13/25 12:39
Analysis Date: 01/15/25 09:32

Comments: Q8515094 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0204	SL, U	0.0305
Arsenic	**7440-38-2**	**0.00816**	FB-01	**0.00774**
Barium	7440-39-3	1.30	LJ, QX, U	1.34
Beryllium	7440-41-7	1.40E-4	U	0.00165
Cadmium	7440-43-9	7.75E-4	U	0.00446
Chromium	7440-47-3	1.14	U	2.12
Cobalt	7440-48-4	0.0124	U	0.0453
Copper	**7440-50-8**	**0.941**	FB-01	**0.654**
Lead	7439-92-1	0.0354	U	0.117
Manganese	7439-96-5	0.281	QB-01, U	0.485
Molybdenum	7439-98-7	0.181	U	0.343
Nickel	7440-02-0	0.485	U	0.643
Selenium	7782-49-2	0.00108	U	0.00879
Thallium	7440-28-0	1.40E-4	U	7.49E-4
Vanadium	7440-62-2	0.0326	U	0.0399
Zinc	7440-66-6	8.76	U	99.2

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-010325-HM
Matrix: Air
Lab ID: 5011327-29
Sample Volume: 1869.509 m³
Filter ID:
Sampled: 01/03/25 00:00
Received: 01/13/25 12:39
Analysis Date: 01/15/25 09:46

Comments: Q8515134 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0168	SL, U	0.0305
Arsenic	7440-38-2	0.00705	U	0.00774
Barium	7440-39-3	1.13	LJ, QX, U	1.34
Beryllium	7440-41-7	2.16E-4	U	0.00165
Cadmium	7440-43-9	8.49E-4	U	0.00446
Chromium	7440-47-3	1.05	U	2.12
Cobalt	7440-48-4	0.0159	U	0.0453
Copper	**7440-50-8**	**3.70**		**0.654**
Lead	7439-92-1	0.0379	U	0.117
Manganese	7439-96-5	0.297	QB-01, U	0.485
Molybdenum	7439-98-7	0.337	U	0.343
Nickel	7440-02-0	0.521	U	0.643
Selenium	7782-49-2	0.00101	U	0.00879
Thallium	7440-28-0	9.25E-5	U	7.49E-4
Vanadium	**7440-62-2**	**0.0476**		**0.0399**
Zinc	7440-66-6	5.89	U	99.2

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Blank (2501034-CCB1)				Prepared & Analyzed: 01/14/25						
Antimony	0.659		ng/l							
Arsenic	1.72		ng/l							
Barium	1.98		ng/l							
Beryllium	-0.872		ng/l							U
Cadmium	0.251		ng/l							
Chromium	1.67		ng/l							
Cobalt	0.0213		ng/l							
Copper	40.2		ng/l							
Lead	3.59		ng/l							
Manganese	4.65		ng/l							
Molybdenum	29.3		ng/l							
Nickel	-0.465		ng/l							U
Selenium	-2.27		ng/l							U
Thallium	1.56		ng/l							
Vanadium	-53.4		ng/l							U
Zinc	391		ng/l							
Calibration Blank (2501034-CCB2)				Prepared & Analyzed: 01/14/25						
Antimony	0.494		ng/l							
Arsenic	7.03		ng/l							
Barium	4.08		ng/l							
Beryllium	-1.65		ng/l							U
Cadmium	0.110		ng/l							
Chromium	3.02		ng/l							
Cobalt	0.292		ng/l							
Copper	19.8		ng/l							
Lead	2.66		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.00		ng/l							
Nickel	3.55		ng/l							
Selenium	1.43		ng/l							
Thallium	1.14		ng/l							
Vanadium	-62.1		ng/l							U
Zinc	-29.0		ng/l							U
Calibration Blank (2501034-CCB3)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	0.636		ng/l							
Arsenic	5.37		ng/l							
Barium	2.80		ng/l							
Beryllium	-1.63		ng/l							U

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REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Blank (2501034-CCB3) Contin				Prepared: 01/14/25 Analyzed: 01/15/25						
Cadmium	0.174		ng/l							
Chromium	4.25		ng/l							
Cobalt	0.301		ng/l							
Copper	20.8		ng/l							
Lead	2.97		ng/l							
Manganese	4.42		ng/l							
Molybdenum	7.68		ng/l							
Nickel	4.57		ng/l							
Selenium	-0.0928		ng/l							U
Thallium	1.30		ng/l							
Vanadium	-59.2		ng/l							U
Zinc	-39.0		ng/l							U
Calibration Blank (2501034-CCB4)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	0.933		ng/l							
Arsenic	9.17		ng/l							
Barium	2.89		ng/l							
Beryllium	-1.91		ng/l							U
Cadmium	0.102		ng/l							
Chromium	3.65		ng/l							
Cobalt	0.281		ng/l							
Copper	25.7		ng/l							
Lead	3.07		ng/l							
Manganese	4.81		ng/l							
Molybdenum	12.2		ng/l							
Nickel	4.27		ng/l							
Selenium	9.84		ng/l							
Thallium	1.63		ng/l							
Vanadium	-67.9		ng/l							U
Zinc	-39.9		ng/l							U
Calibration Blank (2501034-CCB5)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	0.892		ng/l							
Arsenic	7.36		ng/l							
Barium	2.29		ng/l							
Beryllium	-1.94		ng/l							U
Cadmium	0.202		ng/l							
Chromium	3.75		ng/l							
Cobalt	0.321		ng/l							
Copper	23.6		ng/l							

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REPORTED: 01/21/25 14:52
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Blank (2501034-CCB5) Contin				Prepared: 01/14/25 Analyzed: 01/15/25						
Lead	2.85		ng/l							
Manganese	5.19		ng/l							
Molybdenum	11.2		ng/l							
Nickel	5.26		ng/l							
Selenium	-1.69		ng/l							U
Thallium	1.57		ng/l							
Vanadium	-70.2		ng/l							U
Zinc	-39.2		ng/l							U
Calibration Blank (2501034-CCB6)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	0.850		ng/l							
Arsenic	3.60		ng/l							
Barium	2.06		ng/l							
Beryllium	-2.04		ng/l							U
Cadmium	0.121		ng/l							
Chromium	3.40		ng/l							
Cobalt	0.423		ng/l							
Copper	28.3		ng/l							
Lead	2.58		ng/l							
Manganese	6.60		ng/l							
Molybdenum	9.67		ng/l							
Nickel	4.28		ng/l							
Selenium	13.7		ng/l							
Thallium	1.32		ng/l							
Vanadium	-74.7		ng/l							U
Zinc	22.1		ng/l							
Calibration Check (2501034-CCV1)				Prepared & Analyzed: 01/14/25						
Antimony	20000		ng/l	20008		99.8	90-110			
Arsenic	19900		ng/l	20004		99.7	90-110			
Barium	200000		ng/l	200200		99.7	90-110			
Beryllium	4940		ng/l	5002.5		98.8	90-110			
Cadmium	20100		ng/l	20014		100	90-110			
Chromium	245000		ng/l	240050		102	90-110			
Cobalt	50800		ng/l	50020		101	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	199000		ng/l	200060		99.3	90-110			
Manganese	495000		ng/l	498900		99.2	90-110			
Molybdenum	50000		ng/l	50005		100	90-110			
Nickel	123000		ng/l	120040		102	90-110			

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Check (2501034-CCV1) Contin					Prepared & Analyzed: 01/14/25					
Selenium	20000		ng/l	20002		100	90-110			
Thallium	495		ng/l	499.95		99.0	90-110			
Vanadium	19900		ng/l	20030		99.5	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2501034-CCV2)					Prepared & Analyzed: 01/14/25					
Antimony	20100		ng/l	20008		101	90-110			
Arsenic	20100		ng/l	20004		100	90-110			
Barium	199000		ng/l	200200		99.4	90-110			
Beryllium	4930		ng/l	5002.5		98.6	90-110			
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	51600		ng/l	50020		103	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	200000		ng/l	200060		99.8	90-110			
Manganese	504000		ng/l	498900		101	90-110			
Molybdenum	51300		ng/l	50005		103	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	19600		ng/l	20002		98.1	90-110			
Thallium	491		ng/l	499.95		98.3	90-110			
Vanadium	20000		ng/l	20030		99.6	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2501034-CCV3)					Prepared & Analyzed: 01/14/25					
Antimony	20500		ng/l	20008		102	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	208000		ng/l	200200		104	90-110			
Beryllium	5040		ng/l	5002.5		101	90-110			
Cadmium	20800		ng/l	20014		104	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	52000		ng/l	50020		104	90-110			
Copper	2.11E6		ng/l	2.0020E6		105	90-110			
Lead	204000		ng/l	200060		102	90-110			
Manganese	511000		ng/l	498900		102	90-110			
Molybdenum	52200		ng/l	50005		104	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	495		ng/l	499.95		99.1	90-110			
Vanadium	20200		ng/l	20030		101	90-110			
Zinc	530000		ng/l	500000		106	90-110			

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Check (2501034-CCV4)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	20600		ng/l	20008		103	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	213000		ng/l	200200		106	90-110			
Beryllium	5000		ng/l	5002.5		100	90-110			
Cadmium	20900		ng/l	20014		104	90-110			
Chromium	258000		ng/l	240050		107	90-110			
Cobalt	52600		ng/l	50020		105	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	205000		ng/l	200060		103	90-110			
Manganese	516000		ng/l	498900		104	90-110			
Molybdenum	53200		ng/l	50005		106	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	20100		ng/l	20002		100	90-110			
Thallium	498		ng/l	499.95		99.7	90-110			
Vanadium	20300		ng/l	20030		102	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Calibration Check (2501034-CCV5)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	223000		ng/l	200200		111	90-110			LJ, QX
Beryllium	5040		ng/l	5002.5		101	90-110			
Cadmium	21100		ng/l	20014		105	90-110			
Chromium	260000		ng/l	240050		108	90-110			
Cobalt	52700		ng/l	50020		105	90-110			
Copper	2.13E6		ng/l	2.0020E6		107	90-110			
Lead	206000		ng/l	200060		103	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	54200		ng/l	50005		108	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	20300		ng/l	20002		102	90-110			
Thallium	506		ng/l	499.95		101	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2501034-CCV6)				Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	21200		ng/l	20008		106	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	224000		ng/l	200200		112	90-110			LJ, QX
Beryllium	4940		ng/l	5002.5		98.8	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Calibration Check (2501034-CCV6) Contin				Prepared: 01/14/25 Analyzed: 01/15/25						
Cadmium	21400		ng/l	20014		107	90-110			
Chromium	256000		ng/l	240050		107	90-110			
Cobalt	52300		ng/l	50020		104	90-110			
Copper	2.13E6		ng/l	2.0020E6		107	90-110			
Lead	207000		ng/l	200060		104	90-110			
Manganese	519000		ng/l	498900		104	90-110			
Molybdenum	55100		ng/l	50005		110	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	20000		ng/l	20002		99.9	90-110			
Thallium	496		ng/l	499.95		99.3	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	538000		ng/l	500000		108	90-110			
High Cal Check (2501034-HCV1)				Prepared & Analyzed: 01/14/25						
Antimony	39300		ng/l	40016		98.1	95-105			
Arsenic	39100		ng/l	40008		97.7	95-105			
Barium	389000		ng/l	400400		97.1	95-105			
Beryllium	10000		ng/l	10005		99.9	95-105			
Cadmium	38800		ng/l	40028		97.0	95-105			
Chromium	468000		ng/l	480100		97.5	95-105			
Cobalt	97100		ng/l	100040		97.1	95-105			
Copper	3.88E6		ng/l	4.0040E6		97.0	95-105			
Lead	390000		ng/l	400120		97.4	95-105			
Manganese	975000		ng/l	997800		97.7	95-105			
Molybdenum	97500		ng/l	100010		97.5	95-105			
Nickel	233000		ng/l	240070		97.0	95-105			
Selenium	39200		ng/l	40004		98.1	95-105			
Thallium	975		ng/l	999.90		97.5	95-105			
Vanadium	39500		ng/l	40060		98.5	95-105			
Zinc	970000		ng/l	1.0000E6		97.0	95-105			
Initial Cal Blank (2501034-ICB1)				Prepared & Analyzed: 01/14/25						
Antimony	0.740		ng/l							
Arsenic	-0.425		ng/l							U
Barium	0.397		ng/l							
Beryllium	-1.05		ng/l							U
Cadmium	0.104		ng/l							
Chromium	2.73		ng/l							
Cobalt	0.0693		ng/l							
Copper	21.7		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Initial Cal Blank (2501034-ICB1) Continu					Prepared & Analyzed: 01/14/25					
Lead	3.44		ng/l							
Manganese	5.38		ng/l							
Molybdenum	9.62		ng/l							
Nickel	-2.73		ng/l							U
Selenium	-5.14		ng/l							U
Thallium	0.928		ng/l							
Vanadium	-51.0		ng/l							U
Zinc	-26.2		ng/l							U
Initial Cal Check (2501034-ICV1)					Prepared & Analyzed: 01/14/25					
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	495000		ng/l	500000		98.9	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Interference Check A (2501034-IFA1)					Prepared & Analyzed: 01/14/25					
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	304000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501034 - B5A1406										
Interference Check A (2501034-IFA1) Co					Prepared & Analyzed: 01/14/25					
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2501034-IFB1)					Prepared & Analyzed: 01/14/25					
Antimony	20400		ng/l	20008		102	80-120			
Arsenic	20200		ng/l	20004		101	80-120			
Barium	200000		ng/l	200200		99.8	80-120			
Beryllium	4790		ng/l	5002.5		95.7	80-120			
Cadmium	19800		ng/l	20014		99.0	80-120			
Chromium	240000		ng/l	240050		99.9	80-120			
Cobalt	50200		ng/l	50020		100	80-120			
Copper	1.92E6		ng/l	2.0020E6		96.0	80-120			
Lead	204000		ng/l	200060		102	80-120			
Manganese	496000		ng/l	498900		99.4	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	117000		ng/l	120040		97.8	80-120			
Selenium	19200		ng/l	20002		96.1	80-120			
Thallium	515		ng/l	499.95		103	80-120			
Vanadium	19200		ng/l	20030		95.7	80-120			
Zinc	483000		ng/l	500000		96.6	80-120			
Batch B5A1406 - ICP-MS Extraction										
Blank (B5A1406-BLK1)					Prepared & Analyzed: 01/14/25					
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							QB-01, U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Blank (B5A1406-BLK1) Continued				Prepared & Analyzed: 01/14/25						
Zinc	ND	114	ng/m³ Air							U
LCS (B5A1406-BS1)				Prepared & Analyzed: 01/14/25						
Antimony	0.851	0.0350	ng/m³ Air	1.3835		61.5	80-120			SL
Arsenic	2.71	0.00889	ng/m³ Air	2.7664		98.0	80-120			
Barium	29.1	1.54	ng/m³ Air	27.686		105	80-120			
Beryllium	1.33	0.00190	ng/m³ Air	1.3836		95.9	80-120			
Cadmium	1.38	0.00512	ng/m³ Air	1.3839		99.9	80-120			
Chromium	15.4	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.37	0.0520	ng/m³ Air	1.3835		99.4	80-120			
Copper	29.3	0.752	ng/m³ Air	27.686		106	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		99.0	80-120			
Manganese	8.71	0.557	ng/m³ Air	8.2792		105	80-120			QB-01
Molybdenum	1.51	0.394	ng/m³ Air	1.3831		109	80-120			
Nickel	3.16	0.739	ng/m³ Air	2.7667		114	80-120			
Selenium	2.73	0.0101	ng/m³ Air	2.7661		98.5	80-120			
Thallium	0.136	8.61E-4	ng/m³ Air	0.13828		98.5	80-120			
Vanadium	2.81	0.0458	ng/m³ Air	2.7700		102	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A1406-BS2)				Prepared & Analyzed: 01/14/25						
Antimony	0.849	0.0350	ng/m³ Air	1.3835		61.4	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		98.9	80-120			
Barium	29.4	1.54	ng/m³ Air	27.686		106	80-120			
Beryllium	1.32	0.00190	ng/m³ Air	1.3836		95.5	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	15.4	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.39	0.0520	ng/m³ Air	1.3835		100	80-120			
Copper	29.6	0.752	ng/m³ Air	27.686		107	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		100	80-120			
Manganese	8.72	0.557	ng/m³ Air	8.2792		105	80-120			QB-01
Molybdenum	1.59	0.394	ng/m³ Air	1.3831		115	80-120			
Nickel	3.21	0.739	ng/m³ Air	2.7667		116	80-120			
Selenium	2.76	0.0101	ng/m³ Air	2.7661		99.8	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		99.3	80-120			
Vanadium	2.80	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A1406-BS3)				Prepared & Analyzed: 01/14/25						
Antimony	1.38	0.0350	ng/m³ Air	1.3835		99.6	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.7	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
LCS (B5A1406-BS3) Continued					Prepared & Analyzed: 01/14/25					
Barium	28.2	1.54	ng/m³ Air	27.686		102	80-120			
Beryllium	1.33	0.00190	ng/m³ Air	1.3836		96.4	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	14.5	2.44	ng/m³ Air	13.832		105	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.2	80-120			
Copper	28.4	0.752	ng/m³ Air	27.686		103	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		98.8	80-120			
Manganese	8.42	0.557	ng/m³ Air	8.2792		102	80-120			QB-01
Molybdenum	1.37	0.394	ng/m³ Air	1.3831		99.3	80-120			
Nickel	2.78	0.739	ng/m³ Air	2.7667		100	80-120			
Selenium	2.83	0.0101	ng/m³ Air	2.7661		102	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		99.3	80-120			
Vanadium	2.80	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A1406-BS4)					Prepared & Analyzed: 01/14/25					
Antimony	1.38	0.0350	ng/m³ Air	1.3835		99.6	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		99.2	80-120			
Barium	28.6	1.54	ng/m³ Air	27.686		103	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.9	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	14.5	2.44	ng/m³ Air	13.832		105	80-120			
Cobalt	1.38	0.0520	ng/m³ Air	1.3835		99.7	80-120			
Copper	28.8	0.752	ng/m³ Air	27.686		104	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.8	80-120			
Manganese	8.45	0.557	ng/m³ Air	8.2792		102	80-120			QB-01
Molybdenum	1.39	0.394	ng/m³ Air	1.3831		100	80-120			
Nickel	2.80	0.739	ng/m³ Air	2.7667		101	80-120			
Selenium	2.74	0.0101	ng/m³ Air	2.7661		99.1	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		99.3	80-120			
Vanadium	2.77	0.0458	ng/m³ Air	2.7700		100	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5A1406-DUP1)		**Source: 5011327-11**			Prepared & Analyzed: 01/14/25					
Antimony	0.120	0.0292	ng/m³ Air		0.122			1.61	10	SL
Arsenic	0.926	0.00741	ng/m³ Air		0.973			4.93	10	
Barium	9.15	1.28	ng/m³ Air		10.1			9.87	10	
Beryllium	0.0379	0.00158	ng/m³ Air		0.0420			10.3	10	
Cadmium	0.374	0.00427	ng/m³ Air		0.376			0.455	10	
Chromium	4.32	2.03	ng/m³ Air		4.60			6.20	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Duplicate (B5A1406-DUP1) Continued		**Source: 5011327-11**		Prepared & Analyzed: 01/14/25						
Cobalt	1.22	0.0433	ng/m³ Air		1.31			7.07	10	
Copper	55.4	0.627	ng/m³ Air		54.0			2.50	10	
Lead	1.13	0.112	ng/m³ Air		1.14			1.22	10	
Manganese	45.6	0.464	ng/m³ Air		48.8			6.66	10	QB-01
Molybdenum	2.18	0.328	ng/m³ Air		2.15			1.60	10	
Nickel	2.79	0.616	ng/m³ Air		2.97			6.29	10	
Selenium	2.90	0.00841	ng/m³ Air		2.90			0.0773	10	
Thallium	0.0274	7.17E-4	ng/m³ Air		0.0266			2.77	10	
Vanadium	4.62	0.0382	ng/m³ Air		4.98			7.59	10	
Zinc	ND	95.0	ng/m³ Air		ND				10	U
Duplicate (B5A1406-DUP2)		**Source: 5011327-03**		Prepared & Analyzed: 01/14/25						
Antimony	0.265	0.0279	ng/m³ Air		0.270			2.02	10	SL
Arsenic	0.369	0.00709	ng/m³ Air		0.349			5.56	10	
Barium	10.4	1.23	ng/m³ Air		10.2			2.13	10	
Beryllium	0.0187	0.00152	ng/m³ Air		0.0187			0.159	10	
Cadmium	0.0141	0.00408	ng/m³ Air		0.0143			1.01	10	
Chromium	3.17	1.95	ng/m³ Air		3.12			1.67	10	
Cobalt	0.671	0.0415	ng/m³ Air		0.663			1.22	10	
Copper	37.3	0.600	ng/m³ Air		33.0			12.4	10	
Lead	1.32	0.107	ng/m³ Air		1.22			8.21	10	
Manganese	19.1	0.444	ng/m³ Air		18.8			2.04	10	QB-01
Molybdenum	1.95	0.314	ng/m³ Air		1.80			8.25	10	
Nickel	1.95	0.590	ng/m³ Air		1.90			2.20	10	
Selenium	0.279	0.00806	ng/m³ Air		0.266			4.99	10	
Thallium	0.00120	6.87E-4	ng/m³ Air		0.00119			0.880	10	
Vanadium	2.63	0.0365	ng/m³ Air		2.60			1.14	10	
Zinc	ND	90.9	ng/m³ Air		ND				10	U
Duplicate (B5A1406-DUP3)		**Source: 5011327-17**		Prepared: 01/14/25 Analyzed: 01/15/25						
Antimony	0.0432	0.0311	ng/m³ Air		0.0434			0.281	10	SL
Arsenic	0.0781	0.00789	ng/m³ Air		0.0778			0.410	10	
Barium	2.16	1.37	ng/m³ Air		2.17			0.258	10	LJ, QX
Beryllium	0.00563	0.00169	ng/m³ Air		0.00603			6.85	10	
Cadmium	0.0696	0.00455	ng/m³ Air		0.0695			0.103	10	
Chromium	4.94	2.17	ng/m³ Air		4.91			0.615	10	
Cobalt	0.240	0.0462	ng/m³ Air		0.242			0.647	10	
Copper	37.1	0.668	ng/m³ Air		37.0			0.186	10	
Lead	0.175	0.119	ng/m³ Air		0.176			0.301	10	
Manganese	4.48	0.494	ng/m³ Air		4.47			0.249	10	QB-01

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
SUBMITTED: 01/13/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Duplicate (B5A1406-DUP3) Continued		**Source: 5011327-17**			Prepared: 01/14/25 Analyzed: 01/15/25					
Molybdenum	1.46	0.350	ng/m³ Air		1.46			0.113	10	
Nickel	4.69	0.656	ng/m³ Air		4.69			0.0801	10	
Selenium	0.329	0.00897	ng/m³ Air		0.341			3.63	10	
Thallium	0.00170	7.64E-4	ng/m³ Air		0.00168			0.969	10	
Vanadium	0.268	0.0407	ng/m³ Air		0.266			0.944	10	
Zinc	ND	101	ng/m³ Air		ND				10	U
Duplicate (B5A1406-DUP4)		**Source: 5011327-27**			Prepared: 01/14/25 Analyzed: 01/15/25					
Antimony	0.108	0.0293	ng/m³ Air		0.107			0.978	10	SL
Arsenic	0.693	0.00744	ng/m³ Air		0.698			0.597	10	
Barium	3.98	1.29	ng/m³ Air		3.97			0.330	10	LJ, QX
Beryllium	0.0118	0.00159	ng/m³ Air		0.0122			3.73	10	
Cadmium	0.0858	0.00428	ng/m³ Air		0.0844			1.65	10	
Chromium	2.24	2.04	ng/m³ Air		2.22			0.953	10	
Cobalt	0.338	0.0435	ng/m³ Air		0.335			0.941	10	
Copper	24.4	0.629	ng/m³ Air		24.2			0.937	10	
Lead	0.819	0.112	ng/m³ Air		0.813			0.782	10	
Manganese	11.8	0.466	ng/m³ Air		11.7			0.953	10	QB-01
Molybdenum	1.24	0.330	ng/m³ Air		1.23			1.06	10	
Nickel	1.27	0.618	ng/m³ Air		1.27			0.470	10	
Selenium	0.418	0.00845	ng/m³ Air		0.433			3.53	10	
Thallium	0.00483	7.21E-4	ng/m³ Air		0.00471			2.43	10	
Vanadium	0.943	0.0383	ng/m³ Air		0.934			0.942	10	
Zinc	ND	95.4	ng/m³ Air		ND				10	U
Matrix Spike (B5A1406-MS1)		**Source: 5011327-11**			Prepared & Analyzed: 01/14/25					
Antimony	0.671	0.0292	ng/m³ Air	1.1526	0.122	47.7	80-120			SL
Arsenic	3.11	0.00741	ng/m³ Air	2.3048	0.973	92.8	80-120			
Barium	32.8	1.28	ng/m³ Air	23.066	10.1	98.6	80-120			
Beryllium	1.15	0.00158	ng/m³ Air	1.1527	0.0420	95.8	80-120			
Cadmium	1.52	0.00427	ng/m³ Air	1.1530	0.376	99.3	80-120			
Chromium	16.3	2.03	ng/m³ Air	11.524	4.60	102	80-120			
Cobalt	2.46	0.0433	ng/m³ Air	1.1526	1.31	100	80-120			
Copper	80.6	0.627	ng/m³ Air	23.066	54.0	115	80-120			
Lead	12.6	0.112	ng/m³ Air	11.525	1.14	99.3	80-120			
Manganese	55.3	0.464	ng/m³ Air	6.8978	48.8	95.5	80-120			QB-01
Molybdenum	3.25	0.328	ng/m³ Air	1.1523	2.15	95.8	80-120			
Nickel	5.26	0.616	ng/m³ Air	2.3050	2.97	99.2	80-120			
Selenium	5.05	0.00841	ng/m³ Air	2.3046	2.90	93.1	80-120			
Thallium	0.138	7.17E-4	ng/m³ Air	0.11521	0.0266	96.5	80-120			

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REPORTED: 01/21/25 14:52
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Matrix Spike (B5A1406-MS1) Continued Source: 5011327-11 Prepared & Analyzed: 01/14/25										
Vanadium	7.05	0.0382	ng/m³ Air	2.3078	4.98	89.5	80-120			
Zinc	97.8	95.0	ng/m³ Air	69.130	ND	141	80-120			
Matrix Spike (B5A1406-MS2) Source: 5011327-03 Prepared & Analyzed: 01/14/25										
Antimony	0.851	0.0279	ng/m³ Air	1.1037	0.270	52.6	80-120			SL
Arsenic	2.52	0.00709	ng/m³ Air	2.2069	0.349	98.3	80-120			
Barium	33.4	1.23	ng/m³ Air	22.087	10.2	105	80-120			
Beryllium	1.10	0.00152	ng/m³ Air	1.1038	0.0187	97.7	80-120			
Cadmium	1.14	0.00408	ng/m³ Air	1.1040	0.0143	102	80-120			
Chromium	14.9	1.95	ng/m³ Air	11.035	3.12	107	80-120			
Cobalt	1.80	0.0415	ng/m³ Air	1.1037	0.663	103	80-120			
Copper	57.6	0.600	ng/m³ Air	22.087	33.0	112	80-120			
Lead	12.4	0.107	ng/m³ Air	11.036	1.22	101	80-120			
Manganese	25.8	0.444	ng/m³ Air	6.6050	18.8	106	80-120			QB-01
Molybdenum	2.94	0.314	ng/m³ Air	1.1034	1.80	104	80-120			
Nickel	4.26	0.590	ng/m³ Air	2.2072	1.90	107	80-120			
Selenium	2.41	0.00806	ng/m³ Air	2.2067	0.266	97.2	80-120			
Thallium	0.109	6.87E-4	ng/m³ Air	0.11031	0.00119	97.7	80-120			
Vanadium	4.78	0.0365	ng/m³ Air	2.2098	2.60	98.8	80-120			
Zinc	91.3	90.9	ng/m³ Air	66.195	ND	138	80-120			
Matrix Spike Dup (B5A1406-MSD1) Source: 5011327-11 Prepared & Analyzed: 01/14/25										
Antimony	0.668	0.0292	ng/m³ Air	1.1526	0.122	47.4	80-120	0.516	20	SL
Arsenic	3.17	0.00741	ng/m³ Air	2.3048	0.973	95.3	80-120	1.83	20	
Barium	33.3	1.28	ng/m³ Air	23.066	10.1	101	80-120	1.45	20	
Beryllium	1.16	0.00158	ng/m³ Air	1.1527	0.0420	97.0	80-120	1.23	20	
Cadmium	1.53	0.00427	ng/m³ Air	1.1530	0.376	100	80-120	0.854	20	
Chromium	16.8	2.03	ng/m³ Air	11.524	4.60	106	80-120	2.56	20	
Cobalt	2.54	0.0433	ng/m³ Air	1.1526	1.31	107	80-120	3.22	20	
Copper	80.7	0.627	ng/m³ Air	23.066	54.0	116	80-120	0.157	20	
Lead	12.8	0.112	ng/m³ Air	11.525	1.14	101	80-120	1.37	20	
Manganese	59.2	0.464	ng/m³ Air	6.8978	48.8	151	80-120	6.72	20	QB-01, QM-07
Molybdenum	3.27	0.328	ng/m³ Air	1.1523	2.15	97.7	80-120	0.679	20	
Nickel	5.41	0.616	ng/m³ Air	2.3050	2.97	106	80-120	2.85	20	
Selenium	4.96	0.00841	ng/m³ Air	2.3046	2.90	89.2	80-120	1.79	20	
Thallium	0.138	7.17E-4	ng/m³ Air	0.11521	0.0266	97.1	80-120	0.445	20	
Vanadium	7.36	0.0382	ng/m³ Air	2.3078	4.98	103	80-120	4.38	20	
Zinc	ND	95.0	ng/m³ Air	69.130	ND		80-120		20	U
Matrix Spike Dup (B5A1406-MSD2) Source: 5011327-03 Prepared & Analyzed: 01/14/25										
Antimony	0.854	0.0279	ng/m³ Air	1.1037	0.270	52.9	80-120	0.353	20	SL

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Matrix Spike Dup (B5A1406-MSD2) Conti			**Source: 5011327-03**		Prepared & Analyzed: 01/14/25					
Arsenic	2.51	0.00709	ng/m³ Air	2.2069	0.349	97.8	80-120	0.458	20	
Barium	33.4	1.23	ng/m³ Air	22.087	10.2	105	80-120	0.0628	20	
Beryllium	1.10	0.00152	ng/m³ Air	1.1038	0.0187	97.9	80-120	0.179	20	
Cadmium	1.13	0.00408	ng/m³ Air	1.1040	0.0143	101	80-120	0.664	20	
Chromium	14.8	1.95	ng/m³ Air	11.035	3.12	106	80-120	0.469	20	
Cobalt	1.78	0.0415	ng/m³ Air	1.1037	0.663	101	80-120	1.16	20	
Copper	57.4	0.600	ng/m³ Air	22.087	33.0	111	80-120	0.351	20	
Lead	12.4	0.107	ng/m³ Air	11.036	1.22	101	80-120	0.0494	20	
Manganese	25.3	0.444	ng/m³ Air	6.6050	18.8	99.0	80-120	1.88	20	QB-01
Molybdenum	2.95	0.314	ng/m³ Air	1.1034	1.80	104	80-120	0.170	20	
Nickel	4.18	0.590	ng/m³ Air	2.2072	1.90	103	80-120	1.85	20	
Selenium	2.39	0.00806	ng/m³ Air	2.2067	0.266	96.4	80-120	0.712	20	
Thallium	0.108	6.87E-4	ng/m³ Air	0.11031	0.00119	97.2	80-120	0.482	20	
Vanadium	4.83	0.0365	ng/m³ Air	2.2098	2.60	101	80-120	1.05	20	
Zinc	ND	90.9	ng/m³ Air	66.195	ND		80-120		20	U
Post Spike (B5A1406-PS1)			**Source: 5011327-11**		Prepared & Analyzed: 01/14/25					
Antimony	0.354	0.0292	ng/m³ Air	0.23043	0.122	101	75-125			SL
Arsenic	2.11	0.00741	ng/m³ Air	1.1522	0.973	98.3	75-125			
Barium	12.2	1.28	ng/m³ Air	2.3043	10.1	92.0	75-125			
Beryllium	0.264	0.00158	ng/m³ Air	0.23043	0.0420	96.3	75-125			
Cadmium	0.504	0.00427	ng/m³ Air	0.11522	0.376	111	75-125			
Chromium	5.95	2.03	ng/m³ Air	1.1522	4.60	117	75-125			
Cobalt	1.61	0.0433	ng/m³ Air	0.23043	1.31	131	75-125			A-01
Copper	68.3	0.627	ng/m³ Air	11.522	54.0	124	75-125			
Lead	24.3	0.112	ng/m³ Air	23.043	1.14	100	75-125			
Manganese	52.5	0.464	ng/m³ Air	2.3043	48.8	164	75-125			A-01, QB-01
Molybdenum	3.28	0.328	ng/m³ Air	1.1522	2.15	97.9	75-125			
Nickel	5.52	0.616	ng/m³ Air	2.3043	2.97	110	75-125			
Selenium	4.00	0.00841	ng/m³ Air	1.1522	2.90	95.1	75-125			
Thallium	0.0833	7.17E-4	ng/m³ Air	5.7609E-2	0.0266	98.5	75-125			
Vanadium	6.18	0.0382	ng/m³ Air	1.1522	4.98	104	75-125			
Zinc	ND	95.0	ng/m³ Air	23.043	ND		75-125			U
Post Spike (B5A1406-PS2)			**Source: 5011327-03**		Prepared & Analyzed: 01/14/25					
Antimony	0.482	0.0279	ng/m³ Air	0.22065	0.270	96.0	75-125			SL
Arsenic	1.41	0.00709	ng/m³ Air	1.1033	0.349	96.0	75-125			
Barium	12.2	1.23	ng/m³ Air	2.2065	10.2	91.6	75-125			
Beryllium	0.239	0.00152	ng/m³ Air	0.22065	0.0187	99.7	75-125			
Cadmium	0.124	0.00408	ng/m³ Air	0.11033	0.0143	99.4	75-125			

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FILE #: 4205.00.003.001
REPORTED: 01/21/25 14:52
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Post Spike (B5A1406-PS2) Continued		**Source: 5011327-03**		Prepared & Analyzed: 01/14/25						
Chromium	4.17	1.95	ng/m³ Air	1.1033	3.12	95.1	75-125			
Cobalt	0.884	0.0415	ng/m³ Air	0.22065	0.663	100	75-125			
Copper	44.3	0.600	ng/m³ Air	11.033	33.0	103	75-125			
Lead	23.2	0.107	ng/m³ Air	22.065	1.22	99.7	75-125			
Manganese	20.7	0.444	ng/m³ Air	2.2065	18.8	86.4	75-125			QB-01
Molybdenum	2.84	0.314	ng/m³ Air	1.1033	1.80	94.9	75-125			
Nickel	4.07	0.590	ng/m³ Air	2.2065	1.90	97.9	75-125			
Selenium	1.31	0.00806	ng/m³ Air	1.1033	0.266	94.6	75-125			
Thallium	0.0555	6.87E-4	ng/m³ Air	5.5163E-2	0.00119	98.4	75-125			
Vanadium	3.64	0.0365	ng/m³ Air	1.1033	2.60	94.3	75-125			
Zinc	ND	90.9	ng/m³ Air	22.065	ND		75-125			U
Dilution Check (B5A1406-SRL1)		**Source: 5011327-11**		Prepared & Analyzed: 01/14/25						
Antimony	ND	0.146	ng/m³ Air		ND				10	SL, U
Arsenic	0.994	0.0370	ng/m³ Air		0.973			2.13	10	
Barium	9.89	6.42	ng/m³ Air		10.1			2.10	10	
Beryllium	0.0398	0.00791	ng/m³ Air		0.0420			5.34	10	
Cadmium	0.393	0.0213	ng/m³ Air		0.376			4.40	10	
Chromium	ND	10.2	ng/m³ Air		ND				10	U
Cobalt	1.37	0.217	ng/m³ Air		1.31			4.74	10	
Copper	56.6	3.13	ng/m³ Air		54.0			4.68	10	
Lead	1.13	0.558	ng/m³ Air		1.14			1.31	10	
Manganese	50.2	2.32	ng/m³ Air		48.8			2.94	10	QB-01
Molybdenum	2.29	1.64	ng/m³ Air		2.15			6.36	10	
Nickel	3.15	3.08	ng/m³ Air		ND			5.88	10	
Selenium	3.00	0.0421	ng/m³ Air		2.90			3.27	10	
Thallium	0.0291	0.00359	ng/m³ Air		0.0266			9.08	10	
Vanadium	5.02	0.191	ng/m³ Air		4.98			0.686	10	
Zinc	ND	475	ng/m³ Air		ND				10	U
Dilution Check (B5A1406-SRL2)		**Source: 5011327-03**		Prepared & Analyzed: 01/14/25						
Antimony	0.263	0.140	ng/m³ Air		0.270			2.57	10	SL
Arsenic	0.364	0.0355	ng/m³ Air		0.349			4.20	10	
Barium	10.2	6.14	ng/m³ Air		10.2			0.158	10	
Beryllium	0.0166	0.00758	ng/m³ Air		0.0187			11.7	10	
Cadmium	ND	0.0204	ng/m³ Air		ND				10	U
Chromium	ND	9.73	ng/m³ Air		ND				10	U
Cobalt	0.690	0.207	ng/m³ Air		0.663			4.08	10	
Copper	34.2	3.00	ng/m³ Air		33.0			3.72	10	
Lead	1.21	0.535	ng/m³ Air		1.22			1.06	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A1406 - ICP-MS Extraction										
Dilution Check (B5A1406-SRL2) ContinueSource: 5011327-03 Prepared & Analyzed: 01/14/25										
Manganese	19.4	2.22	ng/m³ Air		18.8			3.25	10	QB-01
Molybdenum	1.86	1.57	ng/m³ Air		1.80			3.58	10	
Nickel	ND	2.95	ng/m³ Air		ND				10	U
Selenium	0.282	0.0403	ng/m³ Air		0.266			5.94	10	
Thallium	ND	0.00343	ng/m³ Air		ND				10	U
Vanadium	2.64	0.183	ng/m³ Air		2.60			1.74	10	
Zinc	ND	455	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/22/2025 and Shanna Vasser 01/23/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 01/02/2025 – 01/08/2025
Report No: 5011327

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-010625-HM, for arsenic and copper in MFL-FB01-010825-HM, and for copper and vanadium in MFL-LB01-010325-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

January 9 through January 15, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from January 9 through January 15, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 9 through January 15, 2025, at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at Lahaina Pump Station #6 (AM-08) for three hours on January 10, resulting in the collection of 21 hours of PM_{10} data.
- Because of equipment maintenance, the air monitoring period was interrupted at all monitoring locations for 1 hour on January 12, resulting in the collection of 23 hours of PM_{10} data.

The equipment fault on January 10 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle

was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 21-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. The sample collected at WW Pump Station #4 (AM-02) on January 14 was voided because of a power interruption and blockage failure which prevented calculating an accurate sample run time. With the exception of this sample, all analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

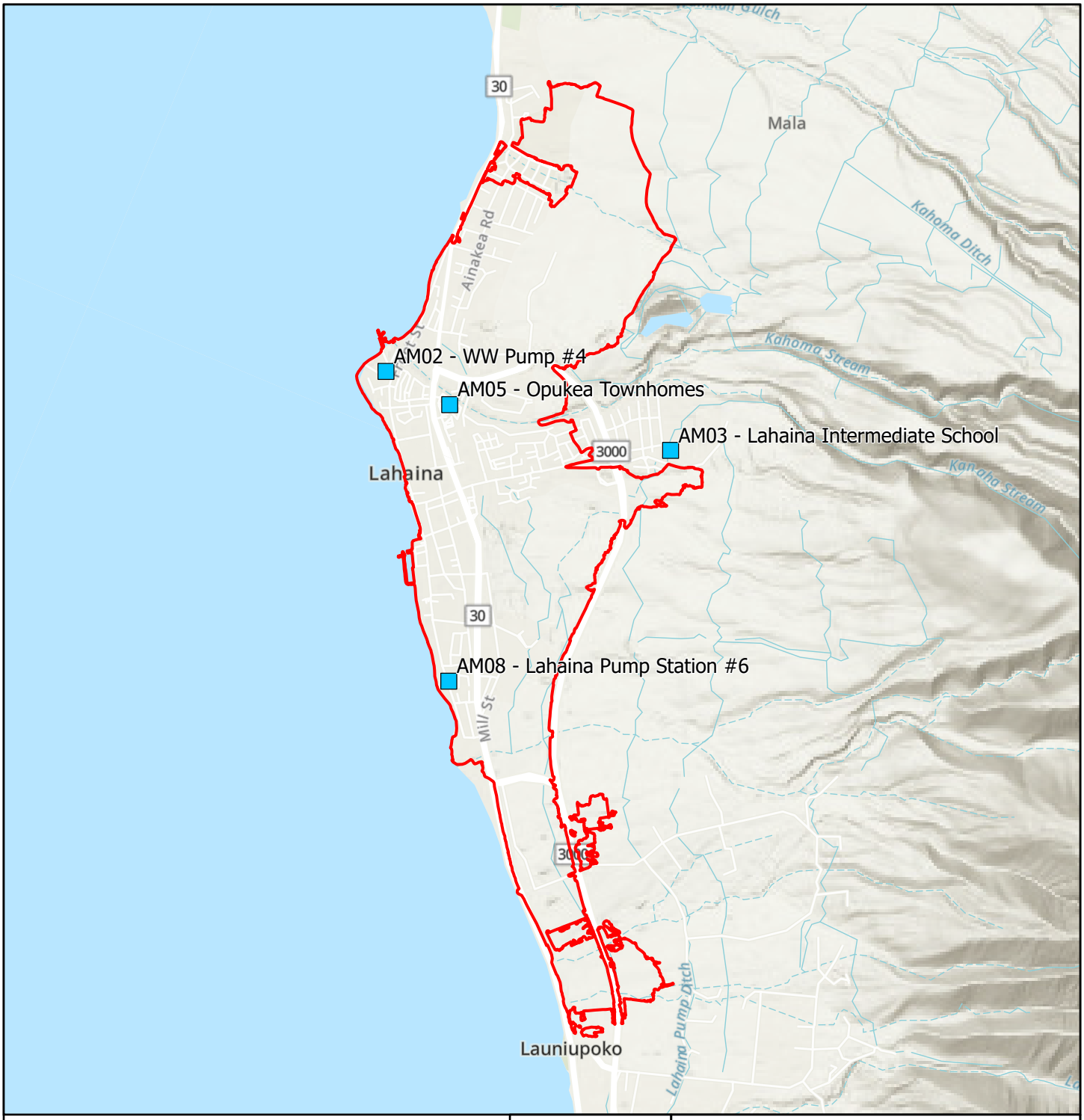
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for p Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 9 through January 15, 2025

Screening Level		TWA Results 150 (µg/m³)
1/9/2025	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	14
	Lahaina Pump Station #6 (AM-08)	7.3
1/10/2025	Opukea Townhomes (AM-05)	14
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	70
	Lahaina Pump Station #6 (AM-08)	7.9*
1/11/2025	Opukea Townhomes (AM-05)	8.1
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	18
	Lahaina Pump Station #6 (AM-08)	6.6
1/12/2025	Opukea Townhomes (AM-05)	9.5**
	WW Pump Station #4 (AM-02)	5.2**
	Lahaina Intermediate School (AM-03)	14**
	Lahaina Pump Station #6 (AM-08)	5.7**
1/13/2025	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	22
	Lahaina Pump Station #6 (AM-08)	11
1/14/2025	Opukea Townhomes (AM-05)	8.5
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	13
	Lahaina Pump Station #6 (AM-08)	7.1
1/15/2025	Opukea Townhomes (AM-05)	9.3
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	16
	Lahaina Pump Station #6 (AM-08)	5.0

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided are from a reduced (21-hr) TWA calculation because of an equipment fault
** Data provided are from a reduced (23-hr) TWA calculation because of equipment maintenance

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 9 through January 15, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
1/9/2025	Opukea Townhomes (AM-05)	<0.0024	0.000138	0.000138	0.00478	0.00000586	0.0000180	ND	0.000195	0.0555	0.000386	0.00593	0.00261	0.00126	0.000218	0.00000148	0.00103	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000244	0.000363	0.0123	0.0000167	0.0000324	0.00255	0.000562	0.0296	0.00342	0.0185	0.00133	0.00162	0.000265	0.00000193	0.00208	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000664	0.0000891	0.00278	0.0000115	0.0000185	ND	0.000228	0.0565	0.000196	0.00597	0.00181	0.00121	0.000220	0.00000168	0.00108	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000152	0.00117	0.00554	0.0000166	0.0000283	0.00265	0.000483	0.0318	0.00102	0.0161	0.00138	0.00166	0.000258	0.00000201	0.00172	ND
1/10/2025	Opukea Townhomes (AM-05)	<0.0024	0.000191	0.00117	0.0152	0.0000577	0.000186	0.00847	0.00201	0.0673	0.00549	0.0618	0.00275	0.00446	0.000339	0.00000406	0.00574	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000254	0.00100	0.0163	0.0000383	0.000667	0.00590	0.00127	0.0535	0.00343	0.0363	0.00171	0.00311	0.000267	0.00000208	0.00371	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000525	0.000373	0.00825	0.000116	0.0000522	0.00833	0.00170	0.0685	0.000616	0.0400	0.00195	0.00413	0.000348	0.00000237	0.00464	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000861	0.000498	0.00334	0.0000113	0.0000381	0.00279	0.000393	0.0461	0.000488	0.00979	0.00159	0.00115	0.000179	0.000000816	0.00121	ND
1/11/2025	Opukea Townhomes (AM-05)	<0.0024	0.000210	0.000152	0.00362	0.00000667	0.0000375	0.00194	0.000226	0.0484	0.000295	0.00642	0.00147	0.000964	0.000193	ND	0.000724	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000193	0.000223	0.00564	0.0000117	0.0000172	0.00240	0.000352	0.0321	0.000789	0.0110	0.00107	0.00123	0.000237	0.000000833	0.00121	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000408	0.000253	0.00531	0.0000693	0.0000120	0.00530	0.00108	0.0587	0.000304	0.0273	0.00168	0.00250	0.000318	0.00000161	0.00311	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000143	0.000207	0.00278	0.00000475	0.0000102	ND	0.000157	0.0371	0.000276	0.00447	0.00116	0.000829	0.000200	ND	0.000547	ND
1/12/2025	Opukea Townhomes (AM-05)	<0.0024	0.000126	0.000286	0.00496	0.00000922	0.0000193	0.00243	0.000318	0.0417	0.00172	0.00966	0.00220	0.00134	0.000171	0.000000824	0.00101	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000307	0.000186	0.00652	0.00000926	0.0000200	0.00199	0.000278	0.0431	0.000791	0.00850	0.00135	0.00110	0.000194	ND	0.000952	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000502	0.0000672	0.00210	0.0000107	0.00000486	ND	0.000172	0.0556	0.000146	0.00416	0.00184	0.000914	0.000157	ND	0.000550	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000118	0.000867	0.00265	0.00000507	0.00000739	ND	0.000174	0.0407	0.000351	0.00561	0.00121	0.000856	0.000170	ND	0.000582	ND
1/13/2025	Opukea Townhomes (AM-05)	<0.0030	0.000970	0.000434	0.00420	0.00000653	0.000265	ND	0.000216	0.0445	0.00605	0.00646	0.00252	0.00102	0.000252	0.00000574	0.000777	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.00121	0.000542	0.00703	0.0000119	0.000300	0.00203	0.000359	0.0363	0.00692	0.0109	0.00122	0.00127	0.000285	0.00000617	0.00129	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000961	0.000460	0.00293	0.0000136	0.000293	ND	0.000249	0.0555	0.00641	0.00668	0.00164	0.00101	0.000265	0.00000621	0.000792	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.00102	0.000809	0.00449	0.00000815	0.000324	ND	0.000269	0.0498	0.00644	0.00862	0.00177	0.00114	0.000267	0.00000622	0.000859	ND
1/14/2025	Opukea Townhomes (AM-05)	<0.0024	0.000845	0.000728	0.00518	0.0000126	0.000210	0.00214	0.000358	0.0675	0.00421	0.0118	0.00322	0.00122	0.000288	0.00000556	0.00135	ND
	WW Pump Station #4 (AM-02)		0.000882	0.000540	0.00896	0.0000192	0.000197	0.00286	0.000636	0.0399	0.00432	0.0187	0.00125	0.00198	0.000311	0.00000557	0.00213	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000697	0.000398	0.00364	0.0000190	0.000174	0.00210	0.000323	0.0527	0.00340	0.00873	0.00155	0.00124	0.000282	0.00000498	0.00119	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000657	0.000554	0.00350	0.00000890	0.000162	ND	0.000245	0.0323	0.00322	0.00830	0.00183	0.00105	0.000253	0.00000444	0.00100	ND
1/15/2025	Opukea Townhomes (AM-05)	<0.0024	0.000499	0.000375	0.00569	0.0000125	0.000146	0.00233	0.000481	0.0494	0.00314	0.0152	0.00234	0.00135	0.000248	0.00000331	0.00146	ND
	WW Pump Station #4 (AM-02)	<0.0030	0.000649	0.000365	0.0117	0.0000148	0.000155	0.00266	0.000484	0.0313	0.00363	0.0141	0.00153	0.00157	0.000261	0.00000350	0.00155	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000393	0.000256	0.00322	0.0000200	0.000133	0.00227	0.000379	0.0528	0.00277	0.00921	0.00155	0.00126	0.000227	0.00000299	0.00106	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000427	0.000718	0.00496	0.0000142	0.000131	0.00240	0.000446	0.0488	0.00584	0.0140	0.00225	0.00149	0.000232	0.00000283	0.00126	ND

95% Upper Confidence Limit[2]	NA	0.000730	0.000670	0.00728	0.0000260	0.000340	0.00409	0.000630	0.0516	0.00663	0.0183	0.00196	0.00181	0.000270	0.00000470	0.00197	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Asbestos sample voided due to blockage failure and inability to calculate run time

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 9 through January 15, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/9/2025	AM-02	WW Pump Station #4	0.7	SE	76	69	763.8
1/9/2025	AM-03	Lahaina Intermediate School	1.0	SE	76	70	755.1
1/9/2025	AM-05	Opukea Townhomes	0.9	SE	77	68	764.2
1/9/2025	AM-08	Lahaina Pump Station #6	1.3	SE	76	69	764.1
1/10/2025	AM-02	WW Pump Station #4	1.2	SSE	79	63	763.2
1/10/2025	AM-03	Lahaina Intermediate School	1.5	SSE	78	64	754.5
1/10/2025	AM-05	Opukea Townhomes	1.3	SSE	79	63	763.6
1/10/2025	AM-08	Lahaina Pump Station #6	2.1	S	78	64	763.4
1/11/2025	AM-02	WW Pump Station #4	1.0	SSE	77	60	763.4
1/11/2025	AM-03	Lahaina Intermediate School	1.1	SE	76	63	754.8
1/11/2025	AM-05	Opukea Townhomes	1.2	SSE	78	60	763.8
1/11/2025	AM-08	Lahaina Pump Station #6	1.6	SSE	77	62	763.7
1/12/2025	AM-02	WW Pump Station #4	1.0	SSE	76	65	763.6
1/12/2025	AM-03	Lahaina Intermediate School	1.1	SE	75	68	754.4
1/12/2025	AM-05	Opukea Townhomes	1.1	SE	77	65	763.3
1/12/2025	AM-08	Lahaina Pump Station #6	1.5	SSE	76	65	763.6
1/13/2025	AM-02	WW Pump Station #4	0.9	SSE	77	67	763.2
1/13/2025	AM-03	Lahaina Intermediate School	1.1	SSE	76	68	753.7
1/13/2025	AM-05	Opukea Townhomes	1.0	SSE	78	67	762.6
1/13/2025	AM-08	Lahaina Pump Station #6	1.5	S	77	66	763.0
1/14/2025	AM-02	WW Pump Station #4	0.9	SSE	77	69	763.6
1/14/2025	AM-03	Lahaina Intermediate School	1.1	SE	76	70	754.2
1/14/2025	AM-05	Opukea Townhomes	1.1	SSE	78	69	763.0
1/14/2025	AM-08	Lahaina Pump Station #6	1.6	SE	77	69	763.4
1/15/2025	AM-02	WW Pump Station #4	1.0	SSE	76	66	763.4
1/15/2025	AM-03	Lahaina Intermediate School	1.0	SE	74	69	754.0
1/15/2025	AM-05	Opukea Townhomes	1.1	SSE	77	66	762.8
1/15/2025	AM-08	Lahaina Pump Station #6	1.5	SSE	75	66	763.2

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/16/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-010925-AB**	**Sample Description:**	**DL914498**
EMSL Sample Number:	042500779-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7293.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0001 **Customer Sample:** MFL-AM05-010925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J7	None Detected									
B1	E7	None Detected									
B1	A7	None Detected									
B2	H4	None Detected									
B2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/16/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-010925-AB**		**Sample Description:**	**DL914462**
EMSL Sample Number:	042500779-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7312.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0002 **Customer Sample:** MFL-AM02-010925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B8	None Detected									
B5	D5	None Detected									
B5	J6	None Detected									
B6	G9	None Detected									
B6	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/16/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-010925-AB**		**Sample Description:**	**DL914455**
EMSL Sample Number:	042500779-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7237.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0003 **Customer Sample:** MFL-AM03-010925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I8	None Detected									
C1	G4	None Detected									
C1	B6	None Detected									
C2	A3	None Detected									
C2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-010925-AB**	**Sample Description:**	**DL914457**
EMSL Sample Number:	042500779-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7490.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0004 **Customer Sample:** MFL-AM08-010925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A4	None Detected									
C5	F7	None Detected									
C5	J3	None Detected									
C7	H8	None Detected									
C7	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	01/16/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-010925-AB** **Sample Description: DL914489**

EMSL Sample Number:	042500779-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0005 **Customer Sample:** MFL-FB01-010925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B8	None Detected									
D1	E4	None Detected									
D1	I7	None Detected									
D2	C6	None Detected									
D2	H5	None Detected									
D2	J3	None Detected									
D2	J8	None Detected									
D3	A8	None Detected									
D3	D5	None Detected									
D3	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/16/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011025-AB**		**Sample Description:**	**DL914508**
EMSL Sample Number:	042500779-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0006 **Customer Sample:** MFL-AM05-011025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	E4	None Detected									
D5	A7	None Detected									
D6	B2	None Detected									
D6	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/17/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011025-AB**		**Sample Description:**	**DL914511**
EMSL Sample Number:	042500779-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0007 **Customer Sample:** MFL-AM02-011025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B4	None Detected									
E1	C5	None Detected									
E2	A6	None Detected									
E2	D7	None Detected									
E3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/17/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011025-AB**		**Sample Description:**	**DL914465**
EMSL Sample Number:	042500779-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0008 **Customer Sample:** MFL-AM03-011025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J9	None Detected									
E5	I8	None Detected									
E6	H5	None Detected									
E6	G4	None Detected									
E7	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/17/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011025-AB**		**Sample Description:**	**DL914458**
EMSL Sample Number:	042500779-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0009 **Customer Sample:** MFL-AM08-011025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C6	None Detected									
F1	D7	None Detected									
F2	J5	None Detected									
F2	I4	None Detected									
F3	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/17/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011025-AB** **Sample Description:** **DL914491**

EMSL Sample Number:	042500779-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042500779**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0010 **Customer Sample:** MFL-FB01-011025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J6	None Detected									
F5	J4	None Detected									
F5	I3	None Detected									
F5	I1	None Detected									
F6	A7	None Detected									
F6	A9	None Detected									
F6	B10	None Detected									
F7	D3	None Detected									
F7	D5	None Detected									
F7	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/17/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011125-AB**		**Sample Description:**	**DL914520**
EMSL Sample Number:	042500779-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7328.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**1**	**1**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0038**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0038
Total All Structures	**-**	**1**	**1**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0011 **Customer Sample:** MFL-AM05-011125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A5	B	1	1	3.16	0.25	CDQ	Chrysotile		2025_Asbestos_004, 2025_Asbestos_005	
G1	C6	None Detected									
G2	J8	None Detected									
G2	H7	None Detected									
G3	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/15/2025 09:35 AM
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Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011125-AB**	**Sample Description:**	**DL914479**
EMSL Sample Number:	042500779-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7171.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0012 **Customer Sample:** MFL-AM02-011125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G7	B8	None Detected									
G7	C4	None Detected									
G7	G9	None Detected									
G8	G9	None Detected									
G8	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011125-AB**	**Sample Description:**	**DL914473**
EMSL Sample Number:	042500779-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7305.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0013 **Customer Sample:** MFL-AM03-011125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	G2	None Detected									
H1	C4	None Detected									
H2	B1	None Detected									
H2	F3	None Detected									
H2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011125-AB**		**Sample Description:**	**DL914459**
EMSL Sample Number:	042500779-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0014 **Customer Sample:** MFL-AM08-011125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J8	None Detected									
H5	G3	None Detected									
H5	D7	None Detected									
H6	B7	None Detected									
H6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-011125-AB**	**Sample Description:**	**DL914488**
EMSL Sample Number:	042500779-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0015 **Customer Sample:** MFL-FB01-011125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A10	None Detected									
I2	C6	None Detected									
I2	E7	None Detected									
I2	G7	None Detected									
I2	I8	None Detected									
I3	A6	None Detected									
I3	C7	None Detected									
I3	E9	None Detected									
I3	G6	None Detected									
I3	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011225-AB**		**Sample Description:**	**DL914467**
EMSL Sample Number:	042500779-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7235.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0016 **Customer Sample:** MFL-AM05-011225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	B8	None Detected									
I5	E9	None Detected									
I5	H7	None Detected									
I6	J7	None Detected									
I6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011225-AB**		**Sample Description:**	**DL914484**
EMSL Sample Number:	042500779-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7236.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0017 **Customer Sample:** MFL-AM02-011225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J3	None Detected									
J1	G4	None Detected									
J1	E7	None Detected									
J2	A6	None Detected									
J2	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011225-AB**		**Sample Description:**	**DL914456**
EMSL Sample Number:	042500779-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0018 **Customer Sample:** MFL-AM03-011225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I3	None Detected									
J5	E3	None Detected									
J5	A5	None Detected									
J6	H5	None Detected									
J6	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011225-AB**	**Sample Description:**	**DL914475**
EMSL Sample Number:	042500779-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7217.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0019 **Customer Sample:** MFL-AM08-011225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	I9	None Detected									
K2	G7	None Detected									
K2	C6	None Detected									
K3	A8	None Detected									
K3	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/21/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-011225-AB**		**Sample Description:**	**DL914505**
EMSL Sample Number:	042500779-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0020 **Customer Sample:** MFL-FB01-011225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J1	None Detected									
K5	H2	None Detected									
K5	F3	None Detected									
K5	D3	None Detected									
K5	B5	None Detected									
K6	A10	None Detected									
K6	C7	None Detected									
K6	E8	None Detected									
K6	G10	None Detected									
K6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042500779
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/15/2025 09:35 AM
Analysis Date:	01/16/2025
Report Date:	01/22/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042500779-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042500779
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	H5	None Detected									
A1	F2	None Detected									
A1	D4	None Detected									
A2	I3	None Detected									
A2	E7	None Detected									
A2	B6	None Detected									
A3	A4	None Detected									
A3	E4	None Detected									
A3	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042500779

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples In Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 15 AM 11:12

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-010925-AB	DL914498	7,293.349	01/09/25 1057
MFL-AM02-010925-AB	DL914462	7,312.125	01/09/25 1115
MFL-AM03-010925-AB	DL914455	7,237.454	01/09/25 1253
MFL-AM08-010925-AB	DL914457	7,490.032	01/09/25 1312
MFL-FB01-010925-AB	DL914489	0	01/09/25 1200
MFL-AM05-011025-AB	DL914508	7,173.023	01/10/25 1052
MFL-AM02-011025-AB	DL914511	7,241.025	01/10/25 1121
MFL-AM03-011025-AB	DL914465	7,238.714	01/10/25 1247

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Shaina Epstein Date/Time: 01/13/25 1100
Received by: F+ Date/Time 1/15/25 935

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

20JD

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042500779

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-011025-AB	DL914458	7,227,809	01/10/25 1316
MFL-FB01-011025-AB	DL914491	~~7,238,714~~ 0	01/10/25 1200
MFL-AM05-011125-AB	DL914520	7,328,269	01/11/25 1053
MFL-AM02-011125-AB	DL914479	7,171.394	01/11/25 1111
MFL-AM03-011125-AB	DL914473	7,305.342	01/11/25 1256
MFL-AM08-011125-AB	DL914459	7,230.543	01/11/25 1317
MFL-FB01-011125-AB	DL914488	0	01/11/25 1200
MFL-AM05-011225-AB	DL914467	7,235.726	01/12/25 1057
MFL-AM02-011225-AB	DL914484	7,236.126	01/12/25 1117
MFL-AM03-011225-AB	DL914456	7,190.467	01/12/25 1300
MFL-AM08-011225-AB	DL914475	7,217.856	01/12/25 1320
MFL-FB01-011225-AB	DL914505	0	01/12/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 15 AM 11:21

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 01/13/25 1100	Received by:	Date/Time 1/15/25
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/23/2025 and Shanna Vasser 01/24/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/09/2025 – 01/12/2025
Report No: 42500779

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501250
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011325-AB**		**Sample Description:**	**DL914527**
EMSL Sample Number:	042501250-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7397.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0001 **Customer Sample:** MFL-AM05-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	C6	None Detected									
D5	E7	None Detected									
D6	J4	None Detected									
D6	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501250
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011325-AB**	**Sample Description:**	**DL914478**
EMSL Sample Number:	042501250-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7170.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0002 **Customer Sample:** MFL-AM02-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B7	None Detected									
E1	C8	None Detected									
E2	J5	None Detected									
E2	I4	None Detected									
E3	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501250
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011325-AB**		**Sample Description:**	**DL915157**
EMSL Sample Number:	042501250-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0003 **Customer Sample:** MFL-AM03-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A4	None Detected									
E5	B6	None Detected									
E6	J8	None Detected									
E6	I7	None Detected									
E7	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011325-AB**		**Sample Description:**	**DL915193**
EMSL Sample Number:	042501250-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0004 **Customer Sample:** MFL-AM08-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C4	None Detected									
F1	D5	None Detected									
F2	A6	None Detected									
F2	B7	None Detected									
F3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011325-AB** **Sample Description: DL915161**

EMSL Sample Number:	042501250-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0005 **Customer Sample:** MFL-FB01-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A6	None Detected									
F5	A8	None Detected									
F5	C7	None Detected									
F5	C9	None Detected									
F6	J5	None Detected									
F6	J3	None Detected									
F6	I4	None Detected									
F7	B4	None Detected									
F7	B6	None Detected									
F7	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501250
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-011325-AB** **Sample Description: DL915173**

EMSL Sample Number:	042501250-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0006 **Customer Sample:** MFL-LB01-011325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J7	None Detected									
G1	J5	None Detected									
G1	I6	None Detected									
G1	I4	None Detected									
G2	H3	None Detected									
G2	H1	None Detected									
G2	F2	None Detected									
G3	A7	None Detected									
G3	A9	None Detected									
G3	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501250
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011425-AB**		**Sample Description:**	**DL915263**
EMSL Sample Number:	042501250-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7085.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0007 **Customer Sample:** MFL-AM05-011425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	D6	None Detected									
G5	E7	None Detected									
G6	A5	None Detected									
G6	B4	None Detected									
G7	J8	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-011425-AB** **Sample Description: DL915192**

EMSL Sample Number:	042501250-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0008 **Customer Sample:** MFL-AM03-011425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A3	None Detected									
H1	B4	None Detected									
H2	C6	None Detected									
H2	D7	None Detected									
H3	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011425-AB**		**Sample Description:**	**DL915179**
EMSL Sample Number:	042501250-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7260.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0009 **Customer Sample:** MFL-AM08-011425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B9	None Detected									
H5	C10	None Detected									
H6	J7	None Detected									
H6	I8	None Detected									
H7	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	01/21/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011425-AB** **Sample Description: DL915188**

EMSL Sample Number:	042501250-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0010 **Customer Sample:** MFL-FB01-011425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J6	None Detected									
I1	J4	None Detected									
I1	I5	None Detected									
I1	I3	None Detected									
I2	G7	None Detected									
I2	G5	None Detected									
I2	F6	None Detected									
I3	A4	None Detected									
I3	A6	None Detected									
I3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/22/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011525-AB**		**Sample Description:**	**DL915261**
EMSL Sample Number:	042501250-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7300.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0011 **Customer Sample:** MFL-AM05-011525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	C4	None Detected									
I5	D6	None Detected									
I6	J7	None Detected									
I6	I8	None Detected									
I7	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/22/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011525-AB**		**Sample Description:**	**DL915174**
EMSL Sample Number:	042501250-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7354.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0012 **Customer Sample:** MFL-AM02-011525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B7	None Detected									
J1	C8	None Detected									
J2	E9	None Detected									
J2	F10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/22/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011525-AB**		**Sample Description:**	**DL915210**
EMSL Sample Number:	042501250-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0013 **Customer Sample:** MFL-AM03-011525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I6	None Detected									
J5	H7	None Detected									
J6	A3	None Detected									
J6	B4	None Detected									
J7	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011525-AB**	**Sample Description:**	**DL915159**
EMSL Sample Number:	042501250-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7213.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0014 **Customer Sample:** MFL-AM08-011525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	B3	None Detected									
K1	C2	None Detected									
K2	E9	None Detected									
K2	F10	None Detected									
K3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	01/22/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011525-AB** **Sample Description: DL915171**

EMSL Sample Number:	042501250-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0015 **Customer Sample:** MFL-FB01-011525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	A6	None Detected									
K5	D7	None Detected									
K5	D9	None Detected									
K6	B6	None Detected									
K6	B8	None Detected									
K6	C7	None Detected									
K7	J5	None Detected									
K7	J3	None Detected									
K7	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	01/20/2025 09:30 AM
Analysis Date:	01/21/2025
Report Date:	01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042501250-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501250
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B3	None Detected									
D1	B5	None Detected									
D1	C4	None Detected									
D1	C6	None Detected									
D2	H7	None Detected									
D2	H9	None Detected									
D2	I8	None Detected									
D3	F6	None Detected									
D3	F8	None Detected									
D3	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042501250

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

RECEIVED EMSL CINNAMINSON, NJ 25 JAN 20 AM 9:34

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	Country: USA	City, State, Zip: / Country:
Phone:	(703) 489-2674		Phone:
Email(s) for Report:	chelsea.saber@tetratech.com		Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 14 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-011325-AB	DL914527	7,397.064	01/13/25 1109
MFL-AM02-011325-AB	DL914478	7,170.875	01/13/25 1124
MFL-AM03-011325-AB	DL915157	7,130.710	01/13/25 1255
MFL-AM06-011325-AB	DL915193	7,283.725	01/13/25 1316
MFL-FB01-011325-AB	DL915161	0	01/13/25 1200
MFL-LB01-011325-AB	DL915173	0	01/13/25 1200
MFL-AM05-011425-AB	DL915263	7,085.239	01/14/25 1049
~~MFL-AM02-011425-AB~~	~~DL915249~~	~~935.066~~	~~01/14/25 0850~~

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

*Voided sample low volume

All samples received acceptable for analysis.

15

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 01/16/25 1100	Received by: - FedEx	Date/Time: 1/20/25 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time:

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042501250

Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM03-011425-AB	DL915192	7,208,819	01/19/25 1257
MFL-AM08-011425-AB	DL915179	7,260,326	01/19/25 1322
MFL-FB01-011425-AB	DL915188	0	01/19/25 1200
MFL-AM05-011525-AB	DL915261	7,300,538	01/15/25 1053
MFL-AM02-011525-AB	DL915174	7,354,179	01/15/25 1109
MFL-AM03-011525-AB	DL915210	7,198,178	01/15/25 1254
MFL-AM08-011525-AB	DL915159	~~7,213~~ 7,213,594	01/15/25 1319
~~MFL-FB01-011525-AB~~			
MFL-FB01-011525-AB	DL915171	0	01/15/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 20 AM 9:34

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 01/16/25 1100	Received by: Fedex	Date/Time 1/20/25 9:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/23/2025 and Shanna Vasser 01/24/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/13/2025 – 01/15/2025
Report No: 42501250

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

4. MFL-AM02-011425-AB was listed on the CoC, but crossed off, voided (due to low sample volume), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

January 29, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/20/25 09:35.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-010925-HM	5012123-01	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM02-010925-HM	5012123-02	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM03-010925-HM	5012123-03	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM08-010925-HM	5012123-04	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM05-011025-HM	5012123-05	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM02-011025-HM	5012123-06	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM03-011025-HM	5012123-07	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM08-011025-HM	5012123-08	Air	01/10/25 23:59	01/20/25 09:35
MFL-FB01-011025-HM	5012123-09	Air	01/10/25 00:00	01/20/25 09:35
MFL-AM05-011125-HM	5012123-10	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM02-011125-HM	5012123-11	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM03-011125-HM	5012123-12	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM08-011125-HM	5012123-13	Air	01/11/25 23:59	01/20/25 09:35
MFL-LB01-011125-HM	5012123-14	Air	01/11/25 00:00	01/20/25 09:35
MFL-AM05-011225-HM	5012123-15	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM02-011225-HM	5012123-16	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM03-011225-HM	5012123-17	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM08-011225-HM	5012123-18	Air	01/12/25 23:59	01/20/25 09:35
MFL-FB01-011225-HM	5012123-19	Air	01/12/25 00:00	01/20/25 09:35
MFL-AM05-011325-HM	5012123-20	Air	01/13/25 23:59	01/20/25 09:35
MFL-AM02-011325-HM	5012123-21	Air	01/13/25 23:59	01/20/25 09:35

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-011325-HM	5012123-22	Air	01/13/25 23:59	01/20/25 09:35
MFL-AM08-011325-HM	5012123-23	Air	01/13/25 23:59	01/20/25 09:35
MFL-AM05-011425-HM	5012123-24	Air	01/14/25 23:59	01/20/25 09:35
MFL-AM02-011425-HM	5012123-25	Air	01/14/25 23:59	01/20/25 09:35
MFL-AM03-011425-HM	5012123-26	Air	01/14/25 23:59	01/20/25 09:35
MFL-AM08-011425-HM	5012123-27	Air	01/14/25 23:59	01/20/25 09:35
MFL-FB01-011425-HM	5012123-28	Air	01/14/25 00:00	01/20/25 09:35
MFL-AM05-011525-HM	5012123-29	Air	01/15/25 23:59	01/20/25 09:35
MFL-AM02-011525-HM	5012123-30	Air	01/15/25 23:59	01/20/25 09:35
MFL-AM03-011525-HM	5012123-31	Air	01/15/25 23:59	01/20/25 09:35
MFL-AM08-011525-HM	5012123-32	Air	01/15/25 23:59	01/20/25 09:35

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-010925-HM
Matrix: Air
Lab ID: 5012123-01
Sample Volume: 1964.272 m³
Filter ID:
Sampled: 01/09/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/23/25 23:32

Comments: Q8515099 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.138**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.138**		**0.00736**
Barium	**7440-39-3**	**4.78**		**1.28**
Beryllium	**7440-41-7**	**0.00586**		**0.00157**
Cadmium	**7440-43-9**	**0.0180**		**0.00424**
Chromium	7440-47-3	1.67	U	2.02
Cobalt	**7440-48-4**	**0.195**		**0.0431**
Copper	**7440-50-8**	**55.5**		**0.623**
Lead	**7439-92-1**	**0.386**		**0.111**
Manganese	**7439-96-5**	**5.93**	QB-01	**0.461**
Molybdenum	**7439-98-7**	**2.61**		**0.326**
Nickel	**7440-02-0**	**1.26**		**0.612**
Selenium	**7782-49-2**	**0.218**		**0.00837**
Thallium	**7440-28-0**	**0.00148**		**7.13E-4**
Vanadium	**7440-62-2**	**1.03**	QB-01	**0.0379**
Zinc	7440-66-6	12.1	U	94.4

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-010925-HM
Matrix: Air
Lab ID: 5012123-02
Sample Volume: 2086.381 m³
Filter ID:
Sampled: 01/09/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/23/25 23:45

Comments: Q8515098 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.244**	SL	**0.0273**
Arsenic	**7440-38-2**	**0.363**		**0.00693**
Barium	**7440-39-3**	**12.3**		**1.20**
Beryllium	**7440-41-7**	**0.0167**		**0.00148**
Cadmium	**7440-43-9**	**0.0324**		**0.00399**
Chromium	**7440-47-3**	**2.55**		**1.90**
Cobalt	**7440-48-4**	**0.562**		**0.0406**
Copper	**7440-50-8**	**29.6**		**0.586**
Lead	**7439-92-1**	**3.42**		**0.104**
Manganese	**7439-96-5**	**18.5**	QB-01	**0.434**
Molybdenum	**7439-98-7**	**1.33**		**0.307**
Nickel	**7440-02-0**	**1.62**		**0.576**
Selenium	**7782-49-2**	**0.265**		**0.00788**
Thallium	**7440-28-0**	**0.00193**		**6.71E-4**
Vanadium	**7440-62-2**	**2.08**	QB-01	**0.0357**
Zinc	7440-66-6	24.8	U	88.9

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-010925-HM **Lab ID:** 5012123-03 **Sampled:** 01/09/25 23:59
Matrix: Air **Sample Volume:** 1857.153 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/23/25 17:17

Comments: Q8515097 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0664**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.0891**		**0.00779**
Barium	**7440-39-3**	**2.78**		**1.35**
Beryllium	**7440-41-7**	**0.0115**		**0.00166**
Cadmium	**7440-43-9**	**0.0185**		**0.00449**
Chromium	7440-47-3	2.13	U	2.14
Cobalt	**7440-48-4**	**0.228**		**0.0456**
Copper	**7440-50-8**	**56.5**		**0.659**
Lead	**7439-92-1**	**0.196**		**0.117**
Manganese	**7439-96-5**	**5.97**	QB-01	**0.488**
Molybdenum	**7439-98-7**	**1.81**		**0.345**
Nickel	**7440-02-0**	**1.21**		**0.647**
Selenium	**7782-49-2**	**0.220**		**0.00885**
Thallium	**7440-28-0**	**0.00168**		**7.54E-4**
Vanadium	**7440-62-2**	**1.08**	QB-01	**0.0401**
Zinc	7440-66-6	12.2	U	99.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-010925-HM
Matrix: Air
Lab ID: 5012123-04
Sample Volume: 1909.212 m³
Filter ID:
Sampled: 01/09/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 00:00

Comments: Q8515095 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.152**	SL	**0.0298**
Arsenic	**7440-38-2**	**1.17**		**0.00758**
Barium	**7440-39-3**	**5.54**		**1.31**
Beryllium	**7440-41-7**	**0.0166**		**0.00162**
Cadmium	**7440-43-9**	**0.0283**		**0.00436**
Chromium	**7440-47-3**	**2.65**		**2.08**
Cobalt	**7440-48-4**	**0.483**		**0.0443**
Copper	**7440-50-8**	**31.8**		**0.641**
Lead	**7439-92-1**	**1.02**		**0.114**
Manganese	**7439-96-5**	**16.1**	QB-01	**0.475**
Molybdenum	**7439-98-7**	**1.38**		**0.336**
Nickel	**7440-02-0**	**1.66**		**0.630**
Selenium	**7782-49-2**	**0.258**		**0.00861**
Thallium	**7440-28-0**	**0.00201**		**7.34E-4**
Vanadium	**7440-62-2**	**1.72**	QB-01	**0.0390**
Zinc	7440-66-6	13.3	U	97.1

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011025-HM
Matrix: Air
Lab ID: 5012123-05
Sample Volume: 1944.621 m³
Filter ID:
Sampled: 01/10/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 00:16

Comments: Q8515093 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0293**
Arsenic	**7440-38-2**	**1.17**		**0.00744**
Barium	**7440-39-3**	**15.2**		**1.29**
Beryllium	**7440-41-7**	**0.0577**		**0.00159**
Cadmium	**7440-43-9**	**0.186**		**0.00428**
Chromium	**7440-47-3**	**8.47**		**2.04**
Cobalt	**7440-48-4**	**2.01**		**0.0435**
Copper	**7440-50-8**	**67.3**		**0.629**
Lead	**7439-92-1**	**5.49**		**0.112**
Manganese	**7439-96-5**	**61.8**	QB-01	**0.466**
Molybdenum	**7439-98-7**	**2.75**		**0.330**
Nickel	**7440-02-0**	**4.46**		**0.618**
Selenium	**7782-49-2**	**0.339**		**0.00845**
Thallium	**7440-28-0**	**0.00406**		**7.20E-4**
Vanadium	**7440-62-2**	**5.74**	QB-01	**0.0383**
Zinc	7440-66-6	49.2	U	95.4

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011025-HM
Matrix: Air
Lab ID: 5012123-06
Sample Volume: 2058.309 m³
Filter ID:
Sampled: 01/10/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 00:33

Comments: Q8515092 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.254**	SL	**0.0277**
Arsenic	**7440-38-2**	**1.00**		**0.00703**
Barium	**7440-39-3**	**16.3**		**1.22**
Beryllium	**7440-41-7**	**0.0383**		**0.00150**
Cadmium	**7440-43-9**	**0.667**		**0.00405**
Chromium	**7440-47-3**	**5.90**		**1.93**
Cobalt	**7440-48-4**	**1.27**		**0.0411**
Copper	**7440-50-8**	**53.5**		**0.594**
Lead	**7439-92-1**	**3.43**		**0.106**
Manganese	**7439-96-5**	**36.3**	QB-01	**0.440**
Molybdenum	**7439-98-7**	**1.71**		**0.311**
Nickel	**7440-02-0**	**3.11**		**0.584**
Selenium	**7782-49-2**	**0.267**		**0.00798**
Thallium	**7440-28-0**	**0.00208**		**6.81E-4**
Vanadium	**7440-62-2**	**3.71**	QB-01	**0.0362**
Zinc	7440-66-6	34.5	U	90.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011025-HM
Matrix: Air
Lab ID: 5012123-07
Sample Volume: 1811.231 m³
Filter ID:
Sampled: 01/10/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 00:49

Comments: Q8515089 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0525**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.373**		**0.00799**
Barium	**7440-39-3**	**8.25**		**1.38**
Beryllium	**7440-41-7**	**0.116**		**0.00171**
Cadmium	**7440-43-9**	**0.0522**		**0.00460**
Chromium	**7440-47-3**	**8.33**		**2.19**
Cobalt	**7440-48-4**	**1.70**		**0.0467**
Copper	**7440-50-8**	**68.5**		**0.676**
Lead	**7439-92-1**	**0.616**		**0.120**
Manganese	**7439-96-5**	**40.0**	QB-01	**0.500**
Molybdenum	**7439-98-7**	**1.95**		**0.354**
Nickel	**7440-02-0**	**4.13**		**0.664**
Selenium	**7782-49-2**	**0.348**		**0.00907**
Thallium	**7440-28-0**	**0.00237**		**7.73E-4**
Vanadium	**7440-62-2**	**4.64**	QB-01	**0.0411**
Zinc	7440-66-6	16.0	U	102

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011025-HM
Matrix: Air
Lab ID: 5012123-08
Sample Volume: 1909.212 m³
Filter ID:
Sampled: 01/10/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 01:04

Comments: Q8515088 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0861**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.498**		**0.00758**
Barium	**7440-39-3**	**3.34**		**1.31**
Beryllium	**7440-41-7**	**0.0113**		**0.00162**
Cadmium	**7440-43-9**	**0.0381**		**0.00436**
Chromium	**7440-47-3**	**2.79**		**2.08**
Cobalt	**7440-48-4**	**0.393**		**0.0443**
Copper	**7440-50-8**	**46.1**		**0.641**
Lead	**7439-92-1**	**0.488**		**0.114**
Manganese	**7439-96-5**	**9.79**	QB-01	**0.475**
Molybdenum	**7439-98-7**	**1.59**		**0.336**
Nickel	**7440-02-0**	**1.15**		**0.630**
Selenium	**7782-49-2**	**0.179**		**0.00861**
Thallium	**7440-28-0**	**8.16E-4**		**7.34E-4**
Vanadium	**7440-62-2**	**1.21**	QB-01	**0.0390**
Zinc	7440-66-6	10.4	U	97.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-011025-HM
Matrix: Air
Lab ID: 5012123-09
Sample Volume: 1944.621 m³
Filter ID:
Sampled: 01/10/25 00:00
Received: 01/20/25 09:35
Analysis Date: 01/24/25 01:18

Comments: Q8515086 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0178	SL, U	0.0293
Arsenic	**7440-38-2**	**0.00917**	FB-01	**0.00744**
Barium	7440-39-3	1.07	U	1.29
Beryllium	7440-41-7	6.75E-4	U	0.00159
Cadmium	7440-43-9	0.00383	U	0.00428
Chromium	7440-47-3	1.29	U	2.04
Cobalt	7440-48-4	0.0199	U	0.0435
Copper	**7440-50-8**	**2.38**	FB-01	**0.629**
Lead	7439-92-1	0.0507	U	0.112
Manganese	7439-96-5	0.457	QB-01, U	0.466
Molybdenum	7439-98-7	0.248	U	0.330
Nickel	7440-02-0	0.429	U	0.618
Selenium	7782-49-2	9.10E-4	U	0.00845
Thallium	7440-28-0	3.78E-4	U	7.20E-4
Vanadium	**7440-62-2**	**0.0437**	FB-01, QB-01	**0.0383**
Zinc	7440-66-6	16.3	U	95.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011125-HM
Matrix: Air
Lab ID: 5012123-10
Sample Volume: 2045.159 m³
Filter ID:
Sampled: 01/11/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 01:31

Comments: Q8515084 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.210**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.152**		**0.00707**
Barium	**7440-39-3**	**3.62**		**1.23**
Beryllium	**7440-41-7**	**0.00667**		**0.00151**
Cadmium	**7440-43-9**	**0.0375**		**0.00407**
Chromium	**7440-47-3**	**1.94**		**1.94**
Cobalt	**7440-48-4**	**0.226**		**0.0414**
Copper	**7440-50-8**	**48.4**		**0.598**
Lead	**7439-92-1**	**0.295**		**0.107**
Manganese	**7439-96-5**	**6.42**	QB-01	**0.443**
Molybdenum	**7439-98-7**	**1.47**		**0.313**
Nickel	**7440-02-0**	**0.964**		**0.588**
Selenium	**7782-49-2**	**0.193**		**0.00803**
Thallium	7440-28-0	5.26E-4	U	6.85E-4
Vanadium	**7440-62-2**	**0.724**	QB-01	**0.0364**
Zinc	7440-66-6	10.3	U	90.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011125-HM
Matrix: Air
Lab ID: 5012123-11
Sample Volume: 2035.979 m³
Filter ID:
Sampled: 01/11/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 02:37

Comments: Q8515083 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.193**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.223**		**0.00710**
Barium	**7440-39-3**	**5.64**	LJ, QX	**1.23**
Beryllium	**7440-41-7**	**0.0117**		**0.00152**
Cadmium	**7440-43-9**	**0.0172**		**0.00409**
Chromium	**7440-47-3**	**2.40**		**1.95**
Cobalt	**7440-48-4**	**0.352**		**0.0416**
Copper	**7440-50-8**	**32.1**		**0.601**
Lead	**7439-92-1**	**0.789**		**0.107**
Manganese	**7439-96-5**	**11.0**	QB-01	**0.445**
Molybdenum	**7439-98-7**	**1.07**		**0.315**
Nickel	**7440-02-0**	**1.23**		**0.591**
Selenium	**7782-49-2**	**0.237**		**0.00807**
Thallium	**7440-28-0**	**8.33E-4**		**6.88E-4**
Vanadium	**7440-62-2**	**1.21**	QB-01	**0.0366**
Zinc	7440-66-6	16.1	U	91.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011125-HM
Matrix: Air
Lab ID: 5012123-12
Sample Volume: 1996.554 m³
Filter ID:
Sampled: 01/11/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 03:06

Comments: Q8515082 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0408**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.253**		**0.00724**
Barium	**7440-39-3**	**5.31**	LJ, QX	**1.25**
Beryllium	**7440-41-7**	**0.0693**		**0.00155**
Cadmium	**7440-43-9**	**0.0120**		**0.00417**
Chromium	**7440-47-3**	**5.30**		**1.99**
Cobalt	**7440-48-4**	**1.08**		**0.0424**
Copper	**7440-50-8**	**58.7**		**0.613**
Lead	**7439-92-1**	**0.304**		**0.109**
Manganese	**7439-96-5**	**27.3**	QB-01	**0.454**
Molybdenum	**7439-98-7**	**1.68**		**0.321**
Nickel	**7440-02-0**	**2.50**		**0.602**
Selenium	**7782-49-2**	**0.318**		**0.00823**
Thallium	**7440-28-0**	**0.00161**		**7.02E-4**
Vanadium	**7440-62-2**	**3.11**	QB-01	**0.0373**
Zinc	7440-66-6	9.56	U	92.9

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011125-HM
Matrix: Air
Lab ID: 5012123-13
Sample Volume: 1990.276 m³
Filter ID:
Sampled: 01/11/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 03:20

Comments: Q8515081 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.143**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.207**		**0.00727**
Barium	**7440-39-3**	**2.78**	LJ, QX	**1.26**
Beryllium	**7440-41-7**	**0.00475**		**0.00155**
Cadmium	**7440-43-9**	**0.0102**		**0.00419**
Chromium	7440-47-3	1.74	U	1.99
Cobalt	**7440-48-4**	**0.157**		**0.0425**
Copper	**7440-50-8**	**37.1**		**0.615**
Lead	**7439-92-1**	**0.276**		**0.110**
Manganese	**7439-96-5**	**4.47**	QB-01	**0.455**
Molybdenum	**7439-98-7**	**1.16**		**0.322**
Nickel	**7440-02-0**	**0.829**		**0.604**
Selenium	**7782-49-2**	**0.200**		**0.00826**
Thallium	7440-28-0	5.04E-4	U	7.04E-4
Vanadium	**7440-62-2**	**0.547**	QB-01	**0.0374**
Zinc	7440-66-6	14.9	U	93.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-011125-HM
Matrix: Air
Lab ID: 5012123-14
Sample Volume: 2045.159 m³
Filter ID:
Sampled: 01/11/25 00:00
Received: 01/20/25 09:35
Analysis Date: 01/24/25 03:33

Comments: Q8522485 Lab Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0200	SL, U	0.0278
Arsenic	7440-38-2	0.00508	U	0.00707
Barium	7440-39-3	0.839	LJ, QX, U	1.23
Beryllium	7440-41-7	3.09E-4	U	0.00151
Cadmium	7440-43-9	0.00141	U	0.00407
Chromium	7440-47-3	0.810	U	1.94
Cobalt	7440-48-4	0.0127	U	0.0414
Copper	7440-50-8	0.502	U	0.598
Lead	7439-92-1	0.0270	U	0.107
Manganese	7439-96-5	0.235	QB-01, U	0.443
Molybdenum	7439-98-7	0.163	U	0.313
Nickel	7440-02-0	0.372	U	0.588
Selenium	7782-49-2	0.00303	U	0.00803
Thallium	7440-28-0	7.27E-5	U	6.85E-4
Vanadium	7440-62-2	0.0354	QB-01, U	0.0364
Zinc	7440-66-6	2.38	U	90.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011225-HM
Matrix: Air
Lab ID: 5012123-15
Sample Volume: 2011.932 m³
Filter ID:
Sampled: 01/12/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 03:47

Comments: Q8522490 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.126**	SL	**0.0283**
Arsenic	**7440-38-2**	**0.286**		**0.00719**
Barium	**7440-39-3**	**4.96**	LJ, QX	**1.25**
Beryllium	**7440-41-7**	**0.00922**		**0.00154**
Cadmium	**7440-43-9**	**0.0193**		**0.00414**
Chromium	**7440-47-3**	**2.43**		**1.97**
Cobalt	**7440-48-4**	**0.318**		**0.0421**
Copper	**7440-50-8**	**41.7**		**0.608**
Lead	**7439-92-1**	**1.72**		**0.108**
Manganese	**7439-96-5**	**9.66**	QB-01	**0.450**
Molybdenum	**7439-98-7**	**2.20**		**0.319**
Nickel	**7440-02-0**	**1.34**		**0.598**
Selenium	**7782-49-2**	**0.171**		**0.00817**
Thallium	**7440-28-0**	**8.24E-4**		**6.96E-4**
Vanadium	**7440-62-2**	**1.01**	QB-01	**0.0370**
Zinc	7440-66-6	14.0	U	92.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011225-HM
Matrix: Air
Lab ID: 5012123-16
Sample Volume: 2082.923 m³
Filter ID:
Sampled: 01/12/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 04:01

Comments: Q8522487 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.307**	SL	**0.0273**
Arsenic	**7440-38-2**	**0.186**		**0.00694**
Barium	**7440-39-3**	**6.52**	LJ, QX	**1.20**
Beryllium	**7440-41-7**	**0.00926**		**0.00148**
Cadmium	**7440-43-9**	**0.0200**		**0.00400**
Chromium	**7440-47-3**	**1.99**		**1.91**
Cobalt	**7440-48-4**	**0.278**		**0.0406**
Copper	**7440-50-8**	**43.1**		**0.587**
Lead	**7439-92-1**	**0.791**		**0.105**
Manganese	**7439-96-5**	**8.50**	QB-01	**0.435**
Molybdenum	**7439-98-7**	**1.35**		**0.308**
Nickel	**7440-02-0**	**1.10**		**0.577**
Selenium	**7782-49-2**	**0.194**		**0.00789**
Thallium	7440-28-0	6.21E-4	U	6.73E-4
Vanadium	**7440-62-2**	**0.952**	QB-01	**0.0358**
Zinc	7440-66-6	17.0	U	89.0

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011225-HM
Matrix: Air
Lab ID: 5012123-17
Sample Volume: 2051.425 m³
Filter ID:
Sampled: 01/12/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 04:14

Comments: Q8522484 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0502**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.0672**		**0.00705**
Barium	**7440-39-3**	**2.10**	LJ, QX	**1.22**
Beryllium	**7440-41-7**	**0.0107**		**0.00151**
Cadmium	**7440-43-9**	**0.00486**		**0.00406**
Chromium	7440-47-3	1.58	U	1.94
Cobalt	**7440-48-4**	**0.172**		**0.0412**
Copper	**7440-50-8**	**55.6**		**0.596**
Lead	**7439-92-1**	**0.146**		**0.106**
Manganese	**7439-96-5**	**4.16**	QB-01	**0.442**
Molybdenum	**7439-98-7**	**1.84**		**0.312**
Nickel	**7440-02-0**	**0.914**		**0.586**
Selenium	**7782-49-2**	**0.157**		**0.00801**
Thallium	7440-28-0	3.74E-4	U	6.83E-4
Vanadium	**7440-62-2**	**0.550**	QB-01	**0.0363**
Zinc	7440-66-6	6.41	U	90.4

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011225-HM
Matrix: Air
Lab ID: 5012123-18
Sample Volume: 2056.69 m³
Filter ID:
Sampled: 01/12/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 04:28

Comments: Q8522483 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.867**		**0.00703**
Barium	**7440-39-3**	**2.65**	LJ, QX	**1.22**
Beryllium	**7440-41-7**	**0.00507**		**0.00150**
Cadmium	**7440-43-9**	**0.00739**		**0.00405**
Chromium	7440-47-3	1.92	U	1.93
Cobalt	**7440-48-4**	**0.174**		**0.0411**
Copper	**7440-50-8**	**40.7**		**0.595**
Lead	**7439-92-1**	**0.351**		**0.106**
Manganese	**7439-96-5**	**5.61**	QB-01	**0.441**
Molybdenum	**7439-98-7**	**1.21**		**0.312**
Nickel	**7440-02-0**	**0.856**		**0.585**
Selenium	**7782-49-2**	**0.170**		**0.00799**
Thallium	7440-28-0	4.73E-4	U	6.81E-4
Vanadium	**7440-62-2**	**0.582**	QB-01	**0.0362**
Zinc	7440-66-6	9.46	U	90.2

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-011225-HM
Matrix: Air
Lab ID: 5012123-19
Sample Volume: 2011.932 m³
Filter ID:
Sampled: 01/12/25 00:00
Received: 01/20/25 09:35
Analysis Date: 01/24/25 06:06

Comments: Q8522479 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0894**	FB-01, SL	**0.0283**
Arsenic	**7440-38-2**	**0.00925**	FB-01	**0.00719**
Barium	7440-39-3	0.971	LJ, QX, U	1.25
Beryllium	7440-41-7	5.28E-4	U	0.00154
Cadmium	7440-43-9	0.00180	U	0.00414
Chromium	7440-47-3	0.966	U	1.97
Cobalt	7440-48-4	0.0213	U	0.0421
Copper	**7440-50-8**	**7.67**	FB-01	**0.608**
Lead	7439-92-1	0.0787	U	0.108
Manganese	7439-96-5	0.447	QB-01, U	0.450
Molybdenum	7439-98-7	0.289	U	0.319
Nickel	7440-02-0	0.524	U	0.598
Selenium	7782-49-2	0.00175	U	0.00817
Thallium	7440-28-0	2.48E-4	U	6.96E-4
Vanadium	**7440-62-2**	**0.0465**	FB-01, QB-01	**0.0370**
Zinc	7440-66-6	6.62	U	92.2

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011325-HM
Matrix: Air
Lab ID: 5012123-20
Sample Volume: 1988.334 m³
Filter ID:
Sampled: 01/13/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 06:19

Comments: Q8522482 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.970**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.434**		**0.00727**
Barium	**7440-39-3**	**4.20**	LJ, QX	**1.26**
Beryllium	**7440-41-7**	**0.00653**		**0.00155**
Cadmium	**7440-43-9**	**0.265**		**0.00419**
Chromium	7440-47-3	1.60	U	2.00
Cobalt	**7440-48-4**	**0.216**		**0.0426**
Copper	**7440-50-8**	**44.5**		**0.615**
Lead	**7439-92-1**	**6.05**		**0.110**
Manganese	**7439-96-5**	**6.46**	QB-01	**0.456**
Molybdenum	**7439-98-7**	**2.52**		**0.322**
Nickel	**7440-02-0**	**1.02**		**0.605**
Selenium	**7782-49-2**	**0.252**		**0.00826**
Thallium	**7440-28-0**	**0.00574**		**7.05E-4**
Vanadium	**7440-62-2**	**0.777**	QB-01	**0.0375**
Zinc	7440-66-6	49.7	U	93.3

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011325-HM
Matrix: Air
Lab ID: 5012123-21
Sample Volume: 2109.982 m³
Filter ID:
Sampled: 01/13/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 06:38

Comments: Q8522481 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**1.21**	SL	**0.0270**
Arsenic	**7440-38-2**	**0.542**		**0.00686**
Barium	**7440-39-3**	**7.03**	LJ, QX	**1.19**
Beryllium	**7440-41-7**	**0.0119**		**0.00147**
Cadmium	**7440-43-9**	**0.300**		**0.00395**
Chromium	**7440-47-3**	**2.03**		**1.88**
Cobalt	**7440-48-4**	**0.359**		**0.0401**
Copper	**7440-50-8**	**36.3**		**0.580**
Lead	**7439-92-1**	**6.92**		**0.103**
Manganese	**7439-96-5**	**10.9**	QB-01	**0.430**
Molybdenum	**7439-98-7**	**1.22**		**0.304**
Nickel	**7440-02-0**	**1.27**		**0.570**
Selenium	**7782-49-2**	**0.285**		**0.00779**
Thallium	**7440-28-0**	**0.00617**		**6.64E-4**
Vanadium	**7440-62-2**	**1.29**	QB-01	**0.0353**
Zinc	7440-66-6	55.3	U	87.9

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011325-HM
Matrix: Air
Lab ID: 5012123-22
Sample Volume: 2036.058 m³
Filter ID:
Sampled: 01/13/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 06:56

Comments: Q8522477 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.961**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.460**		**0.00710**
Barium	**7440-39-3**	**2.93**	LJ, QX	**1.23**
Beryllium	**7440-41-7**	**0.0136**		**0.00152**
Cadmium	**7440-43-9**	**0.293**		**0.00409**
Chromium	7440-47-3	1.79	U	1.95
Cobalt	**7440-48-4**	**0.249**		**0.0416**
Copper	**7440-50-8**	**55.5**		**0.601**
Lead	**7439-92-1**	**6.41**		**0.107**
Manganese	**7439-96-5**	**6.68**	QB-01	**0.445**
Molybdenum	**7439-98-7**	**1.64**		**0.315**
Nickel	**7440-02-0**	**1.01**		**0.591**
Selenium	**7782-49-2**	**0.265**		**0.00807**
Thallium	**7440-28-0**	**0.00621**		**6.88E-4**
Vanadium	**7440-62-2**	**0.792**	QB-01	**0.0366**
Zinc	7440-66-6	49.6	U	91.1

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011325-HM
Matrix: Air
Lab ID: 5012123-23
Sample Volume: 1826.74 m³
Filter ID:
Sampled: 01/13/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 07:15

Comments: Q8522473 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**1.02**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.809**		**0.00792**
Barium	**7440-39-3**	**4.49**	LJ, QX	**1.37**
Beryllium	**7440-41-7**	**0.00815**		**0.00169**
Cadmium	**7440-43-9**	**0.324**		**0.00456**
Chromium	7440-47-3	1.87	U	2.17
Cobalt	**7440-48-4**	**0.269**		**0.0463**
Copper	**7440-50-8**	**49.8**		**0.670**
Lead	**7439-92-1**	**6.44**		**0.119**
Manganese	**7439-96-5**	**8.62**	QB-01	**0.496**
Molybdenum	**7439-98-7**	**1.77**		**0.351**
Nickel	**7440-02-0**	**1.14**		**0.658**
Selenium	**7782-49-2**	**0.267**		**0.00900**
Thallium	**7440-28-0**	**0.00622**		**7.67E-4**
Vanadium	**7440-62-2**	**0.859**	QB-01	**0.0408**
Zinc	7440-66-6	52.9	U	102

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011425-HM
Matrix: Air
Lab ID: 5012123-24
Sample Volume: 1913.725 m³
Filter ID:
Sampled: 01/14/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/23/25 20:51

Comments: Q8522472 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.845**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.728**		**0.00756**
Barium	**7440-39-3**	**5.18**		**1.31**
Beryllium	**7440-41-7**	**0.0126**		**0.00162**
Cadmium	**7440-43-9**	**0.210**		**0.00435**
Chromium	**7440-47-3**	**2.14**		**2.07**
Cobalt	**7440-48-4**	**0.358**		**0.0442**
Copper	**7440-50-8**	**67.5**		**0.639**
Lead	**7439-92-1**	**4.21**		**0.114**
Manganese	**7439-96-5**	**11.8**	QB-01	**0.474**
Molybdenum	**7439-98-7**	**3.22**		**0.335**
Nickel	**7440-02-0**	**1.22**		**0.628**
Selenium	**7782-49-2**	**0.288**		**0.00859**
Thallium	**7440-28-0**	**0.00556**		**7.32E-4**
Vanadium	**7440-62-2**	**1.35**	QB-01	**0.0389**
Zinc	7440-66-6	44.4	U	96.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011425-HM
Matrix: Air
Lab ID: 5012123-25
Sample Volume: 2060.851 m³
Filter ID:
Sampled: 01/14/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 07:34

Comments: Q8522471 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.882**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.540**		**0.00702**
Barium	**7440-39-3**	**8.96**	LJ, QX	**1.22**
Beryllium	**7440-41-7**	**0.0192**		**0.00150**
Cadmium	**7440-43-9**	**0.197**		**0.00404**
Chromium	**7440-47-3**	**2.86**		**1.93**
Cobalt	**7440-48-4**	**0.636**		**0.0411**
Copper	**7440-50-8**	**39.9**		**0.594**
Lead	**7439-92-1**	**4.32**		**0.106**
Manganese	**7439-96-5**	**18.7**	QB-01	**0.440**
Molybdenum	**7439-98-7**	**1.25**		**0.311**
Nickel	**7440-02-0**	**1.98**		**0.583**
Selenium	**7782-49-2**	**0.311**		**0.00797**
Thallium	**7440-28-0**	**0.00557**		**6.80E-4**
Vanadium	**7440-62-2**	**2.13**	QB-01	**0.0362**
Zinc	7440-66-6	49.0	U	90.0

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011425-HM
Matrix: Air
Lab ID: 5012123-26
Sample Volume: 1997.39 m³
Filter ID:
Sampled: 01/14/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 07:51

Comments: Q8522470 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.697**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.398**		**0.00724**
Barium	**7440-39-3**	**3.64**	LJ, QX	**1.25**
Beryllium	**7440-41-7**	**0.0190**		**0.00155**
Cadmium	**7440-43-9**	**0.174**		**0.00417**
Chromium	**7440-47-3**	**2.10**		**1.99**
Cobalt	**7440-48-4**	**0.323**		**0.0424**
Copper	**7440-50-8**	**52.7**		**0.613**
Lead	**7439-92-1**	**3.40**		**0.109**
Manganese	**7439-96-5**	**8.73**	QB-01	**0.454**
Molybdenum	**7439-98-7**	**1.55**		**0.321**
Nickel	**7440-02-0**	**1.24**		**0.602**
Selenium	**7782-49-2**	**0.282**		**0.00823**
Thallium	**7440-28-0**	**0.00498**		**7.01E-4**
Vanadium	**7440-62-2**	**1.19**	QB-01	**0.0373**
Zinc	7440-66-6	36.2	U	92.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011425-HM
Matrix: Air
Lab ID: 5012123-27
Sample Volume: 1882.465 m³
Filter ID:
Sampled: 01/14/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 08:07

Comments: Q8522469 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.657**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.554**		**0.00768**
Barium	**7440-39-3**	**3.50**	LJ, QX	**1.33**
Beryllium	**7440-41-7**	**0.00890**		**0.00164**
Cadmium	**7440-43-9**	**0.162**		**0.00443**
Chromium	7440-47-3	1.70	U	2.11
Cobalt	**7440-48-4**	**0.245**		**0.0449**
Copper	**7440-50-8**	**32.3**		**0.650**
Lead	**7439-92-1**	**3.22**		**0.116**
Manganese	**7439-96-5**	**8.30**	QB-01	**0.481**
Molybdenum	**7439-98-7**	**1.83**		**0.341**
Nickel	**7440-02-0**	**1.05**		**0.639**
Selenium	**7782-49-2**	**0.253**		**0.00873**
Thallium	**7440-28-0**	**0.00444**		**7.44E-4**
Vanadium	**7440-62-2**	**1.00**	QB-01	**0.0396**
Zinc	7440-66-6	38.9	U	98.5

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-011425-HM
Matrix: Air
Lab ID: 5012123-28
Sample Volume: 1913.725 m³
Filter ID:
Sampled: 01/14/25 00:00
Received: 01/20/25 09:35
Analysis Date: 01/24/25 08:23

Comments: Q8522459 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0220	SL, U	0.0298
Arsenic	7440-38-2	0.00569	U	0.00756
Barium	7440-39-3	0.907	LJ, QX, U	1.31
Beryllium	7440-41-7	2.18E-4	U	0.00162
Cadmium	7440-43-9	7.88E-4	U	0.00435
Chromium	7440-47-3	0.837	U	2.07
Cobalt	7440-48-4	0.0119	U	0.0442
Copper	**7440-50-8**	**0.960**	FB-01	**0.639**
Lead	7439-92-1	0.0317	U	0.114
Manganese	7439-96-5	0.191	QB-01, U	0.474
Molybdenum	7439-98-7	0.165	U	0.335
Nickel	7440-02-0	0.384	U	0.628
Selenium	7782-49-2	ND	U	0.00859
Thallium	7440-28-0	5.80E-5	U	7.32E-4
Vanadium	7440-62-2	0.0295	QB-01, U	0.0389
Zinc	7440-66-6	3.78	U	96.9

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011525-HM
Matrix: Air
Lab ID: 5012123-29
Sample Volume: 1979.214 m³
Filter ID:
Sampled: 01/15/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 08:36

Comments: Q8522468 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.499**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.375**		**0.00731**
Barium	**7440-39-3**	**5.69**	LJ, QX	**1.27**
Beryllium	**7440-41-7**	**0.0125**		**0.00156**
Cadmium	**7440-43-9**	**0.146**		**0.00421**
Chromium	**7440-47-3**	**2.33**		**2.01**
Cobalt	**7440-48-4**	**0.481**		**0.0427**
Copper	**7440-50-8**	**49.4**		**0.618**
Lead	**7439-92-1**	**3.14**		**0.110**
Manganese	**7439-96-5**	**15.2**	QB-01	**0.458**
Molybdenum	**7439-98-7**	**2.34**		**0.324**
Nickel	**7440-02-0**	**1.35**		**0.607**
Selenium	**7782-49-2**	**0.248**		**0.00830**
Thallium	**7440-28-0**	**0.00331**		**7.08E-4**
Vanadium	**7440-62-2**	**1.46**	QB-01	**0.0376**
Zinc	7440-66-6	30.4	U	93.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011525-HM
Matrix: Air
Lab ID: 5012123-30
Sample Volume: 2046.533 m³
Filter ID:
Sampled: 01/15/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 09:44

Comments: Q8522467 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.649**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.365**		**0.00707**
Barium	**7440-39-3**	**11.7**		**1.22**
Beryllium	**7440-41-7**	**0.0148**		**0.00151**
Cadmium	**7440-43-9**	**0.155**		**0.00407**
Chromium	**7440-47-3**	**2.66**		**1.94**
Cobalt	**7440-48-4**	**0.484**		**0.0413**
Copper	**7440-50-8**	**31.3**		**0.598**
Lead	**7439-92-1**	**3.63**		**0.107**
Manganese	**7439-96-5**	**14.1**	QB-01	**0.443**
Molybdenum	**7439-98-7**	**1.53**		**0.313**
Nickel	**7440-02-0**	**1.57**		**0.588**
Selenium	**7782-49-2**	**0.261**		**0.00803**
Thallium	**7440-28-0**	**0.00350**		**6.84E-4**
Vanadium	**7440-62-2**	**1.55**	QB-01	**0.0364**
Zinc	7440-66-6	38.9	U	90.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011525-HM
Matrix: Air
Lab ID: 5012123-31
Sample Volume: 2027.521 m³
Filter ID:
Sampled: 01/15/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 10:03

Comments: Q8522463 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.393**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.256**		**0.00713**
Barium	**7440-39-3**	**3.22**		**1.24**
Beryllium	**7440-41-7**	**0.0200**		**0.00152**
Cadmium	**7440-43-9**	**0.133**		**0.00411**
Chromium	**7440-47-3**	**2.27**		**1.96**
Cobalt	**7440-48-4**	**0.379**		**0.0417**
Copper	**7440-50-8**	**52.8**		**0.603**
Lead	**7439-92-1**	**2.77**		**0.108**
Manganese	**7439-96-5**	**9.21**	QB-01	**0.447**
Molybdenum	**7439-98-7**	**1.55**		**0.316**
Nickel	**7440-02-0**	**1.26**		**0.593**
Selenium	**7782-49-2**	**0.227**		**0.00810**
Thallium	**7440-28-0**	**0.00299**		**6.91E-4**
Vanadium	**7440-62-2**	**1.06**	QB-01	**0.0368**
Zinc	7440-66-6	23.4	U	91.5

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011525-HM
Matrix: Air
Lab ID: 5012123-32
Sample Volume: 1721.574 m³
Filter ID:
Sampled: 01/15/25 23:59
Received: 01/20/25 09:35
Analysis Date: 01/24/25 10:20

Comments: Q8522458 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.427**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.718**		**0.00840**
Barium	**7440-39-3**	**4.96**		**1.46**
Beryllium	**7440-41-7**	**0.0142**		**0.00180**
Cadmium	**7440-43-9**	**0.131**		**0.00484**
Chromium	**7440-47-3**	**2.40**		**2.31**
Cobalt	**7440-48-4**	**0.446**		**0.0491**
Copper	**7440-50-8**	**48.8**		**0.711**
Lead	**7439-92-1**	**5.84**		**0.127**
Manganese	**7439-96-5**	**14.0**	QB-01	**0.526**
Molybdenum	**7439-98-7**	**2.25**		**0.372**
Nickel	**7440-02-0**	**1.49**		**0.698**
Selenium	**7782-49-2**	**0.232**		**0.00955**
Thallium	**7440-28-0**	**0.00283**		**8.14E-4**
Vanadium	**7440-62-2**	**1.26**	QB-01	**0.0433**
Zinc	7440-66-6	29.4	U	108

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Blank (2501056-CCB1)				Prepared & Analyzed: 01/23/25						
Antimony	0.891		ng/l							
Arsenic	-4.04		ng/l							U
Barium	3.47		ng/l							
Beryllium	-0.791		ng/l							U
Cadmium	0.167		ng/l							
Chromium	4.10		ng/l							
Cobalt	0.210		ng/l							
Copper	16.1		ng/l							
Lead	2.23		ng/l							
Manganese	4.84		ng/l							
Molybdenum	25.4		ng/l							
Nickel	-2.05		ng/l							U
Selenium	-15.2		ng/l							U
Thallium	1.16		ng/l							
Vanadium	2.77		ng/l							
Zinc	-14.8		ng/l							U
Calibration Blank (2501056-CCB2)				Prepared & Analyzed: 01/23/25						
Antimony	0.469		ng/l							
Arsenic	-3.68		ng/l							U
Barium	1.02		ng/l							
Beryllium	-1.12		ng/l							U
Cadmium	-0.0370		ng/l							U
Chromium	2.87		ng/l							
Cobalt	0.129		ng/l							
Copper	-0.452		ng/l							U
Lead	1.40		ng/l							
Manganese	3.97		ng/l							
Molybdenum	7.41		ng/l							
Nickel	-1.11		ng/l							U
Selenium	-7.13		ng/l							U
Thallium	0.959		ng/l							
Vanadium	-12.1		ng/l							U
Zinc	-32.4		ng/l							U
Calibration Blank (2501056-CCB3)				Prepared & Analyzed: 01/23/25						
Antimony	0.484		ng/l							
Arsenic	0.823		ng/l							
Barium	1.58		ng/l							
Beryllium	-1.53		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Blank (2501056-CCB3) Contin				Prepared & Analyzed: 01/23/25						
Cadmium	0.0520		ng/l							
Chromium	2.96		ng/l							
Cobalt	0.242		ng/l							
Copper	3.70		ng/l							
Lead	1.84		ng/l							
Manganese	4.19		ng/l							
Molybdenum	6.27		ng/l							
Nickel	-1.80		ng/l							U
Selenium	-11.9		ng/l							U
Thallium	0.956		ng/l							
Vanadium	-40.1		ng/l							U
Zinc	-12.9		ng/l							U
Calibration Blank (2501056-CCB4)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	0.615		ng/l							
Arsenic	4.97		ng/l							
Barium	3.00		ng/l							
Beryllium	-1.62		ng/l							U
Cadmium	0.186		ng/l							
Chromium	2.35		ng/l							
Cobalt	0.173		ng/l							
Copper	0.519		ng/l							
Lead	1.67		ng/l							
Manganese	2.78		ng/l							
Molybdenum	4.72		ng/l							
Nickel	0.838		ng/l							
Selenium	-11.2		ng/l							U
Thallium	0.720		ng/l							
Vanadium	-51.4		ng/l							U
Zinc	-22.0		ng/l							U
Calibration Blank (2501056-CCB5)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	0.790		ng/l							
Arsenic	0.335		ng/l							
Barium	2.66		ng/l							
Beryllium	-1.64		ng/l							U
Cadmium	0.0795		ng/l							
Chromium	4.00		ng/l							
Cobalt	0.0791		ng/l							
Copper	6.48		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Blank (2501056-CCB5) Contin				Prepared: 01/23/25 Analyzed: 01/24/25						
Lead	2.40		ng/l							
Manganese	4.00		ng/l							
Molybdenum	8.71		ng/l							
Nickel	-1.61		ng/l							U
Selenium	-1.02		ng/l							U
Thallium	1.25		ng/l							
Vanadium	-60.2		ng/l							U
Zinc	-15.3		ng/l							U
Calibration Blank (2501056-CCB6)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	0.487		ng/l							
Arsenic	1.21		ng/l							
Barium	2.67		ng/l							
Beryllium	-1.91		ng/l							U
Cadmium	0.224		ng/l							
Chromium	3.71		ng/l							
Cobalt	0.119		ng/l							
Copper	3.83		ng/l							
Lead	1.79		ng/l							
Manganese	3.37		ng/l							
Molybdenum	5.13		ng/l							
Nickel	1.30		ng/l							
Selenium	-7.35		ng/l							U
Thallium	0.871		ng/l							
Vanadium	-56.6		ng/l							U
Zinc	-22.7		ng/l							U
Calibration Blank (2501056-CCB7)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	0.959		ng/l							
Arsenic	-0.622		ng/l							U
Barium	2.25		ng/l							
Beryllium	-1.68		ng/l							U
Cadmium	0.399		ng/l							
Chromium	3.68		ng/l							
Cobalt	0.433		ng/l							
Copper	15.6		ng/l							
Lead	3.37		ng/l							
Manganese	6.02		ng/l							
Molybdenum	9.62		ng/l							
Nickel	-2.03		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Blank (2501056-CCB7) Contin				Prepared: 01/23/25 Analyzed: 01/24/25						
Selenium	-2.90		ng/l							U
Thallium	1.41		ng/l							
Vanadium	-55.9		ng/l							U
Zinc	1.85		ng/l							
Calibration Check (2501056-CCV1)				Prepared & Analyzed: 01/23/25						
Antimony	20300		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		100	90-110			
Barium	200000		ng/l	200200		99.7	90-110			
Beryllium	5080		ng/l	5002.5		101	90-110			
Cadmium	20500		ng/l	20014		102	90-110			
Chromium	252000		ng/l	240050		105	90-110			
Cobalt	50900		ng/l	50020		102	90-110			
Copper	2.07E6		ng/l	2.0020E6		103	90-110			
Lead	201000		ng/l	200060		100	90-110			
Manganese	500000		ng/l	498900		100	90-110			
Molybdenum	50400		ng/l	50005		101	90-110			
Nickel	123000		ng/l	120040		102	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	494		ng/l	499.95		98.7	90-110			
Vanadium	20000		ng/l	20030		99.6	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2501056-CCV2)				Prepared & Analyzed: 01/23/25						
Antimony	20400		ng/l	20008		102	90-110			
Arsenic	20100		ng/l	20004		100	90-110			
Barium	198000		ng/l	200200		98.8	90-110			
Beryllium	5090		ng/l	5002.5		102	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	50100		ng/l	50020		100	90-110			
Copper	2.04E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	501000		ng/l	498900		100	90-110			
Molybdenum	49700		ng/l	50005		99.4	90-110			
Nickel	120000		ng/l	120040		100	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	487		ng/l	499.95		97.3	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Check (2501056-CCV3)				Prepared & Analyzed: 01/23/25						
Antimony	20500		ng/l	20008		103	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		103	90-110			
Beryllium	5060		ng/l	5002.5		101	90-110			
Cadmium	20500		ng/l	20014		102	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.07E6		ng/l	2.0020E6		103	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	508000		ng/l	498900		102	90-110			
Molybdenum	50900		ng/l	50005		102	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	488		ng/l	499.95		97.6	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2501056-CCV4)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	21200		ng/l	20008		106	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	217000		ng/l	200200		109	90-110			
Beryllium	5220		ng/l	5002.5		104	90-110			
Cadmium	21300		ng/l	20014		106	90-110			
Chromium	260000		ng/l	240050		108	90-110			
Cobalt	51900		ng/l	50020		104	90-110			
Copper	2.15E6		ng/l	2.0020E6		107	90-110			
Lead	209000		ng/l	200060		104	90-110			
Manganese	523000		ng/l	498900		105	90-110			
Molybdenum	52900		ng/l	50005		106	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	21300		ng/l	20002		106	90-110			
Thallium	490		ng/l	499.95		98.0	90-110			
Vanadium	20900		ng/l	20030		104	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2501056-CCV5)				Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	21200		ng/l	20008		106	90-110			
Arsenic	21100		ng/l	20004		105	90-110			
Barium	223000		ng/l	200200		112	90-110			LJ, QX
Beryllium	5230		ng/l	5002.5		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Check (2501056-CCV5) Contin					Prepared: 01/23/25 Analyzed: 01/24/25					
Cadmium	21300		ng/l	20014		107	90-110			
Chromium	262000		ng/l	240050		109	90-110			
Cobalt	52600		ng/l	50020		105	90-110			
Copper	2.16E6		ng/l	2.0020E6		108	90-110			
Lead	209000		ng/l	200060		105	90-110			
Manganese	528000		ng/l	498900		106	90-110			
Molybdenum	54000		ng/l	50005		108	90-110			
Nickel	127000		ng/l	120040		106	90-110			
Selenium	21500		ng/l	20002		107	90-110			
Thallium	494		ng/l	499.95		98.8	90-110			
Vanadium	21100		ng/l	20030		105	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2501056-CCV6)					Prepared: 01/23/25 Analyzed: 01/24/25					
Antimony	20700		ng/l	20008		103	90-110			
Arsenic	20600		ng/l	20004		103	90-110			
Barium	212000		ng/l	200200		106	90-110			
Beryllium	5320		ng/l	5002.5		106	90-110			
Cadmium	20800		ng/l	20014		104	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	50800		ng/l	50020		102	90-110			
Copper	2.16E6		ng/l	2.0020E6		108	90-110			
Lead	204000		ng/l	200060		102	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	51900		ng/l	50005		104	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20800		ng/l	20002		104	90-110			
Thallium	462		ng/l	499.95		92.4	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2501056-CCV7)					Prepared: 01/23/25 Analyzed: 01/24/25					
Antimony	21500		ng/l	20008		107	90-110			
Arsenic	21300		ng/l	20004		106	90-110			
Barium	210000		ng/l	200200		105	90-110			
Beryllium	5290		ng/l	5002.5		106	90-110			
Cadmium	21600		ng/l	20014		108	90-110			
Chromium	263000		ng/l	240050		109	90-110			
Cobalt	52400		ng/l	50020		105	90-110			
Copper	2.20E6		ng/l	2.0020E6		110	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Calibration Check (2501056-CCV7) Contin				Prepared: 01/23/25 Analyzed: 01/24/25						
Lead	212000		ng/l	200060		106	90-110			
Manganese	542000		ng/l	498900		109	90-110			
Molybdenum	53300		ng/l	50005		107	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	21300		ng/l	20002		107	90-110			
Thallium	491		ng/l	499.95		98.1	90-110			
Vanadium	21300		ng/l	20030		106	90-110			
Zinc	534000		ng/l	500000		107	90-110			
High Cal Check (2501056-HCV1)				Prepared & Analyzed: 01/23/25						
Antimony	41000		ng/l	40016		103	95-105			
Arsenic	40400		ng/l	40008		101	95-105			
Barium	403000		ng/l	400400		101	95-105			
Beryllium	10100		ng/l	10005		101	95-105			
Cadmium	40500		ng/l	40028		101	95-105			
Chromium	481000		ng/l	480100		100	95-105			
Cobalt	99800		ng/l	100040		99.8	95-105			
Copper	3.98E6		ng/l	4.0040E6		99.5	95-105			
Lead	405000		ng/l	400120		101	95-105			
Manganese	1.00E6		ng/l	997800		101	95-105			
Molybdenum	101000		ng/l	100010		101	95-105			
Nickel	239000		ng/l	240070		99.4	95-105			
Selenium	41200		ng/l	40004		103	95-105			
Thallium	1010		ng/l	999.90		101	95-105			
Vanadium	40700		ng/l	40060		102	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2501056-ICB1)				Prepared & Analyzed: 01/23/25						
Antimony	0.661		ng/l							
Arsenic	-3.77		ng/l							U
Barium	4.23		ng/l							
Beryllium	-0.789		ng/l							U
Cadmium	0.241		ng/l							
Chromium	5.87		ng/l							
Cobalt	0.190		ng/l							
Copper	13.4		ng/l							
Lead	2.96		ng/l							
Manganese	6.34		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-2.72		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Initial Cal Blank (2501056-ICB1) Continu				Prepared & Analyzed: 01/23/25						
Selenium	-5.30		ng/l							U
Thallium	0.840		ng/l							
Vanadium	17.4		ng/l							
Zinc	-29.5		ng/l							U
Initial Cal Check (2501056-ICV1)				Prepared & Analyzed: 01/23/25						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	49800		ng/l	50000		99.6	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	510		ng/l	500.00		102	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Interference Check A (2501056-IFA1)				Prepared & Analyzed: 01/23/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	303000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501056 - B5A2302										
Interference Check B (2501056-IFB1)					Prepared & Analyzed: 01/23/25					
Antimony	20600		ng/l	20008		103	80-120			
Arsenic	20400		ng/l	20004		102	80-120			
Barium	200000		ng/l	200200		100	80-120			
Beryllium	4860		ng/l	5002.5		97.1	80-120			
Cadmium	20000		ng/l	20014		100	80-120			
Chromium	243000		ng/l	240050		101	80-120			
Cobalt	49900		ng/l	50020		99.7	80-120			
Copper	1.92E6		ng/l	2.0020E6		96.0	80-120			
Lead	205000		ng/l	200060		103	80-120			
Manganese	502000		ng/l	498900		101	80-120			
Molybdenum	358000		ng/l	350000		102	80-120			
Nickel	117000		ng/l	120040		97.7	80-120			
Selenium	19700		ng/l	20002		98.6	80-120			
Thallium	513		ng/l	499.95		103	80-120			
Vanadium	19100		ng/l	20030		95.2	80-120			
Zinc	472000		ng/l	500000		94.4	80-120			
Batch B5A2302 - ICP-MS Extraction										
Blank (B5A2302-BLK1)					Prepared & Analyzed: 01/23/25					
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							QB-01, U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							QB-01, U
Zinc	ND	114	ng/m³ Air							U
LCS (B5A2302-BS1)					Prepared & Analyzed: 01/23/25					
Antimony	0.884	0.0350	ng/m³ Air	1.3835		63.9	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		99.2	80-120			
Barium	28.5	1.54	ng/m³ Air	27.686		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
LCS (B5A2302-BS1) Continued					Prepared & Analyzed: 01/23/25					
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.5	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	15.4	2.44	ng/m³ Air	13.832		112	80-120			
Cobalt	1.39	0.0520	ng/m³ Air	1.3835		100	80-120			
Copper	29.6	0.752	ng/m³ Air	27.686		107	80-120			
Lead	13.9	0.134	ng/m³ Air	13.833		101	80-120			
Manganese	9.00	0.557	ng/m³ Air	8.2792		109	80-120			QB-01
Molybdenum	1.50	0.394	ng/m³ Air	1.3831		109	80-120			
Nickel	3.20	0.739	ng/m³ Air	2.7667		115	80-120			
Selenium	2.81	0.0101	ng/m³ Air	2.7661		102	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		99.3	80-120			
Vanadium	2.85	0.0458	ng/m³ Air	2.7700		103	80-120			QB-01
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2302-BS2)					Prepared & Analyzed: 01/23/25					
Antimony	0.844	0.0350	ng/m³ Air	1.3835		61.0	80-120			SL
Arsenic	2.70	0.00889	ng/m³ Air	2.7664		97.6	80-120			
Barium	28.4	1.54	ng/m³ Air	27.686		103	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.2	80-120			
Cadmium	1.38	0.00512	ng/m³ Air	1.3839		99.6	80-120			
Chromium	15.3	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.6	80-120			
Copper	28.9	0.752	ng/m³ Air	27.686		104	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.7	80-120			
Manganese	8.94	0.557	ng/m³ Air	8.2792		108	80-120			QB-01
Molybdenum	1.46	0.394	ng/m³ Air	1.3831		106	80-120			
Nickel	3.14	0.739	ng/m³ Air	2.7667		113	80-120			
Selenium	2.73	0.0101	ng/m³ Air	2.7661		98.5	80-120			
Thallium	0.136	8.61E-4	ng/m³ Air	0.13828		98.2	80-120			
Vanadium	2.82	0.0458	ng/m³ Air	2.7700		102	80-120			QB-01
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2302-BS3)					Prepared & Analyzed: 01/23/25					
Antimony	1.39	0.0350	ng/m³ Air	1.3835		100	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		99.1	80-120			
Barium	27.5	1.54	ng/m³ Air	27.686		99.5	80-120			
Beryllium	1.34	0.00190	ng/m³ Air	1.3836		96.8	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	14.5	2.44	ng/m³ Air	13.832		105	80-120			
Cobalt	1.37	0.0520	ng/m³ Air	1.3835		99.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
LCS (B5A2302-BS3) Continued				Prepared & Analyzed: 01/23/25						
Copper	28.5	0.752	ng/m³ Air	27.686		103	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.6	80-120			
Manganese	8.81	0.557	ng/m³ Air	8.2792		106	80-120			QB-01
Molybdenum	1.35	0.394	ng/m³ Air	1.3831		97.6	80-120			
Nickel	2.79	0.739	ng/m³ Air	2.7667		101	80-120			
Selenium	2.76	0.0101	ng/m³ Air	2.7661		99.9	80-120			
Thallium	0.136	8.61E-4	ng/m³ Air	0.13828		98.5	80-120			
Vanadium	2.81	0.0458	ng/m³ Air	2.7700		101	80-120			QB-01
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2302-BS4)				Prepared & Analyzed: 01/23/25						
Antimony	1.37	0.0350	ng/m³ Air	1.3835		98.8	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.7	80-120			
Barium	27.8	1.54	ng/m³ Air	27.686		100	80-120			
Beryllium	1.36	0.00190	ng/m³ Air	1.3836		98.5	80-120			
Cadmium	1.37	0.00512	ng/m³ Air	1.3839		99.0	80-120			
Chromium	14.2	2.44	ng/m³ Air	13.832		103	80-120			
Cobalt	1.35	0.0520	ng/m³ Air	1.3835		97.4	80-120			
Copper	28.1	0.752	ng/m³ Air	27.686		102	80-120			
Lead	13.6	0.134	ng/m³ Air	13.833		98.5	80-120			
Manganese	8.53	0.557	ng/m³ Air	8.2792		103	80-120			QB-01
Molybdenum	1.33	0.394	ng/m³ Air	1.3831		96.2	80-120			
Nickel	2.74	0.739	ng/m³ Air	2.7667		99.1	80-120			
Selenium	2.74	0.0101	ng/m³ Air	2.7661		98.9	80-120			
Thallium	0.135	8.61E-4	ng/m³ Air	0.13828		97.8	80-120			
Vanadium	2.77	0.0458	ng/m³ Air	2.7700		100	80-120			QB-01
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5A2302-DUP1)		**Source: 5012123-03**		Prepared & Analyzed: 01/23/25						
Antimony	0.0639	0.0307	ng/m³ Air		0.0664			3.74	10	SL
Arsenic	0.0804	0.00779	ng/m³ Air		0.0891			10.2	10	
Barium	2.80	1.35	ng/m³ Air		2.78			0.556	10	
Beryllium	0.0107	0.00166	ng/m³ Air		0.0115			6.55	10	
Cadmium	0.0142	0.00449	ng/m³ Air		0.0185			26.4	10	
Chromium	2.21	2.14	ng/m³ Air		ND				10	
Cobalt	0.214	0.0456	ng/m³ Air		0.228			6.34	10	
Copper	53.1	0.659	ng/m³ Air		56.5			6.26	10	
Lead	0.164	0.117	ng/m³ Air		0.196			18.1	10	
Manganese	5.55	0.488	ng/m³ Air		5.97			7.27	10	QB-01
Molybdenum	1.63	0.345	ng/m³ Air		1.81			10.5	10	

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Duplicate (B5A2302-DUP1) Continued			**Source: 5012123-03**		Prepared & Analyzed: 01/23/25					
Nickel	1.19	0.647	ng/m³ Air		1.21			1.89	10	
Selenium	0.208	0.00885	ng/m³ Air		0.220			5.77	10	
Thallium	0.00159	7.54E-4	ng/m³ Air		0.00168			5.54	10	
Vanadium	1.03	0.0401	ng/m³ Air		1.08			4.77	10	QB-01
Zinc	ND	99.9	ng/m³ Air		ND				10	U
Duplicate (B5A2302-DUP2)			**Source: 5012123-24**		Prepared & Analyzed: 01/23/25					
Antimony	0.832	0.0298	ng/m³ Air		0.845			1.57	10	SL
Arsenic	0.670	0.00756	ng/m³ Air		0.728			8.39	10	
Barium	5.03	1.31	ng/m³ Air		5.18			2.99	10	
Beryllium	0.0114	0.00162	ng/m³ Air		0.0126			10.1	10	
Cadmium	0.220	0.00435	ng/m³ Air		0.210			4.39	10	
Chromium	ND	2.07	ng/m³ Air		2.14				10	U
Cobalt	0.338	0.0442	ng/m³ Air		0.358			5.60	10	
Copper	66.0	0.639	ng/m³ Air		67.5			2.24	10	
Lead	4.07	0.114	ng/m³ Air		4.21			3.26	10	
Manganese	11.1	0.474	ng/m³ Air		11.8			5.80	10	QB-01
Molybdenum	3.08	0.335	ng/m³ Air		3.22			4.31	10	
Nickel	1.10	0.628	ng/m³ Air		1.22			10.2	10	
Selenium	0.281	0.00859	ng/m³ Air		0.288			2.32	10	
Thallium	0.00547	7.32E-4	ng/m³ Air		0.00556			1.68	10	
Vanadium	1.24	0.0389	ng/m³ Air		1.35			8.65	10	QB-01
Zinc	ND	96.9	ng/m³ Air		ND				10	U
Duplicate (B5A2302-DUP3)			**Source: 5012123-11**		Prepared: 01/23/25 Analyzed: 01/24/25					
Antimony	0.193	0.0280	ng/m³ Air		0.193			0.224	10	SL
Arsenic	0.228	0.00710	ng/m³ Air		0.223			2.17	10	
Barium	5.69	1.23	ng/m³ Air		5.64			0.854	10	LJ, QX
Beryllium	0.0122	0.00152	ng/m³ Air		0.0117			4.21	10	
Cadmium	0.0173	0.00409	ng/m³ Air		0.0172			0.536	10	
Chromium	2.41	1.95	ng/m³ Air		2.40			0.779	10	
Cobalt	0.358	0.0416	ng/m³ Air		0.352			1.50	10	
Copper	32.5	0.601	ng/m³ Air		32.1			1.07	10	
Lead	0.791	0.107	ng/m³ Air		0.789			0.323	10	
Manganese	11.1	0.445	ng/m³ Air		11.0			0.699	10	QB-01
Molybdenum	1.08	0.315	ng/m³ Air		1.07			0.601	10	
Nickel	1.25	0.591	ng/m³ Air		1.23			1.57	10	
Selenium	0.237	0.00807	ng/m³ Air		0.237			0.314	10	
Thallium	7.70E-4	6.88E-4	ng/m³ Air		8.33E-4			7.91	10	
Vanadium	1.23	0.0366	ng/m³ Air		1.21			1.36	10	QB-01

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REPORTED: 01/29/25 11:06
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Duplicate (B5A2302-DUP3) Continued		**Source: 5012123-11**		Prepared: 01/23/25 Analyzed: 01/24/25						
Zinc	ND	91.1	ng/m³ Air		ND				10	U
Duplicate (B5A2302-DUP4)		**Source: 5012123-18**		Prepared: 01/23/25 Analyzed: 01/24/25						
Antimony	0.118	0.0277	ng/m³ Air		0.118			0.415	10	SL
Arsenic	0.872	0.00703	ng/m³ Air		0.867			0.532	10	
Barium	2.67	1.22	ng/m³ Air		2.65			0.659	10	LJ, QX
Beryllium	0.00514	0.00150	ng/m³ Air		0.00507			1.26	10	
Cadmium	0.00718	0.00405	ng/m³ Air		0.00739			2.95	10	
Chromium	ND	1.93	ng/m³ Air		ND				10	U
Cobalt	0.173	0.0411	ng/m³ Air		0.174			0.677	10	
Copper	40.9	0.595	ng/m³ Air		40.7			0.523	10	
Lead	0.351	0.106	ng/m³ Air		0.351			0.0429	10	
Manganese	5.60	0.441	ng/m³ Air		5.61			0.0814	10	QB-01
Molybdenum	1.22	0.312	ng/m³ Air		1.21			0.307	10	
Nickel	0.848	0.585	ng/m³ Air		0.856			0.966	10	
Selenium	0.166	0.00799	ng/m³ Air		0.170			2.26	10	
Thallium	ND	6.81E-4	ng/m³ Air		ND				10	U
Vanadium	0.578	0.0362	ng/m³ Air		0.582			0.805	10	QB-01
Zinc	ND	90.2	ng/m³ Air		ND				10	U
Matrix Spike (B5A2302-MS1)		**Source: 5012123-03**		Prepared & Analyzed: 01/23/25						
Antimony	0.786	0.0307	ng/m³ Air	1.2120	0.0664	59.4	80-120			SL
Arsenic	2.44	0.00779	ng/m³ Air	2.4235	0.0891	97.0	80-120			
Barium	26.8	1.35	ng/m³ Air	24.255	2.78	99.0	80-120			
Beryllium	1.20	0.00166	ng/m³ Air	1.2121	0.0115	97.8	80-120			
Cadmium	1.25	0.00449	ng/m³ Air	1.2124	0.0185	102	80-120			
Chromium	14.3	2.14	ng/m³ Air	12.118	ND	118	80-120			
Cobalt	1.40	0.0456	ng/m³ Air	1.2120	0.228	96.7	80-120			
Copper	79.5	0.659	ng/m³ Air	24.255	56.5	94.5	80-120			
Lead	12.5	0.117	ng/m³ Air	12.119	0.196	101	80-120			
Manganese	13.0	0.488	ng/m³ Air	7.2532	5.97	96.4	80-120			QB-01
Molybdenum	2.93	0.345	ng/m³ Air	1.2117	1.81	92.2	80-120			
Nickel	3.46	0.647	ng/m³ Air	2.4238	1.21	93.0	80-120			
Selenium	2.58	0.00885	ng/m³ Air	2.4233	0.220	97.4	80-120			
Thallium	0.119	7.54E-4	ng/m³ Air	0.12114	0.00168	97.2	80-120			
Vanadium	3.44	0.0401	ng/m³ Air	2.4267	1.08	97.3	80-120			QB-01
Zinc	ND	99.9	ng/m³ Air	72.692	ND		80-120			U
Matrix Spike (B5A2302-MS2)		**Source: 5012123-24**		Prepared & Analyzed: 01/23/25						
Antimony	1.53	0.0298	ng/m³ Air	1.1762	0.845	58.4	80-120			SL
Arsenic	2.96	0.00756	ng/m³ Air	2.3519	0.728	95.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Matrix Spike (B5A2302-MS2) Continued Source: 5012123-24 Prepared & Analyzed: 01/23/25										
Barium	28.9	1.31	ng/m³ Air	23.538	5.18	101	80-120			
Beryllium	1.19	0.00162	ng/m³ Air	1.1763	0.0126	100	80-120			
Cadmium	1.36	0.00435	ng/m³ Air	1.1765	0.210	97.7	80-120			
Chromium	13.8	2.07	ng/m³ Air	11.760	2.14	98.8	80-120			
Cobalt	1.49	0.0442	ng/m³ Air	1.1762	0.358	96.0	80-120			
Copper	88.9	0.639	ng/m³ Air	23.538	67.5	91.0	80-120			
Lead	15.7	0.114	ng/m³ Air	11.761	4.21	98.0	80-120			
Manganese	18.2	0.474	ng/m³ Air	7.0388	11.8	91.7	80-120			QB-01
Molybdenum	4.31	0.335	ng/m³ Air	1.1758	3.22	92.8	80-120			
Nickel	3.42	0.628	ng/m³ Air	2.3521	1.22	93.7	80-120			
Selenium	2.56	0.00859	ng/m³ Air	2.3517	0.288	96.7	80-120			
Thallium	0.116	7.32E-4	ng/m³ Air	0.11756	0.00556	94.2	80-120			
Vanadium	3.56	0.0389	ng/m³ Air	2.3550	1.35	93.7	80-120			QB-01
Zinc	113	96.9	ng/m³ Air	70.543	ND	160	80-120			
Matrix Spike Dup (B5A2302-MSD1) Source: 5012123-03 Prepared & Analyzed: 01/23/25										
Antimony	0.782	0.0307	ng/m³ Air	1.2120	0.0664	59.0	80-120	0.580	20	SL
Arsenic	2.45	0.00779	ng/m³ Air	2.4235	0.0891	97.4	80-120	0.462	20	
Barium	27.0	1.35	ng/m³ Air	24.255	2.78	100	80-120	0.831	20	
Beryllium	1.19	0.00166	ng/m³ Air	1.2121	0.0115	97.6	80-120	0.244	20	
Cadmium	1.24	0.00449	ng/m³ Air	1.2124	0.0185	101	80-120	0.969	20	
Chromium	14.4	2.14	ng/m³ Air	12.118	ND	119	80-120	0.814	20	
Cobalt	1.42	0.0456	ng/m³ Air	1.2120	0.228	98.1	80-120	1.26	20	
Copper	81.8	0.659	ng/m³ Air	24.255	56.5	104	80-120	2.91	20	
Lead	12.3	0.117	ng/m³ Air	12.119	0.196	99.7	80-120	1.53	20	
Manganese	13.4	0.488	ng/m³ Air	7.2532	5.97	102	80-120	3.23	20	QB-01
Molybdenum	2.93	0.345	ng/m³ Air	1.2117	1.81	92.3	80-120	0.0307	20	
Nickel	3.44	0.647	ng/m³ Air	2.4238	1.21	92.0	80-120	0.704	20	
Selenium	2.60	0.00885	ng/m³ Air	2.4233	0.220	98.3	80-120	0.768	20	
Thallium	0.119	7.54E-4	ng/m³ Air	0.12114	0.00168	96.7	80-120	0.506	20	
Vanadium	3.46	0.0401	ng/m³ Air	2.4267	1.08	98.1	80-120	0.560	20	QB-01
Zinc	ND	99.9	ng/m³ Air	72.692	ND		80-120		20	U
Matrix Spike Dup (B5A2302-MSD2) Source: 5012123-24 Prepared & Analyzed: 01/23/25										
Antimony	1.58	0.0298	ng/m³ Air	1.1762	0.845	62.9	80-120	3.39	20	SL
Arsenic	3.02	0.00756	ng/m³ Air	2.3519	0.728	97.5	80-120	2.00	20	
Barium	29.0	1.31	ng/m³ Air	23.538	5.18	101	80-120	0.481	20	
Beryllium	1.17	0.00162	ng/m³ Air	1.1763	0.0126	98.7	80-120	1.46	20	
Cadmium	1.40	0.00435	ng/m³ Air	1.1765	0.210	101	80-120	2.64	20	
Chromium	14.0	2.07	ng/m³ Air	11.760	2.14	101	80-120	1.55	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Matrix Spike Dup (B5A2302-MSD2) Conti		**Source: 5012123-24**			Prepared & Analyzed: 01/23/25					
Cobalt	1.51	0.0442	ng/m³ Air	1.1762	0.358	98.2	80-120	1.74	20	
Copper	92.2	0.639	ng/m³ Air	23.538	67.5	105	80-120	3.55	20	
Lead	16.0	0.114	ng/m³ Air	11.761	4.21	100	80-120	1.56	20	
Manganese	18.8	0.474	ng/m³ Air	7.0388	11.8	100	80-120	3.22	20	QB-01
Molybdenum	4.41	0.335	ng/m³ Air	1.1758	3.22	102	80-120	2.43	20	
Nickel	3.51	0.628	ng/m³ Air	2.3521	1.22	97.3	80-120	2.43	20	
Selenium	2.65	0.00859	ng/m³ Air	2.3517	0.288	100	80-120	3.19	20	
Thallium	0.118	7.32E-4	ng/m³ Air	0.11756	0.00556	95.5	80-120	1.29	20	
Vanadium	3.62	0.0389	ng/m³ Air	2.3550	1.35	96.5	80-120	1.81	20	QB-01
Zinc	118	96.9	ng/m³ Air	70.543	ND	168	80-120	4.72	20	
Post Spike (B5A2302-PS1)		**Source: 5012123-03**			Prepared & Analyzed: 01/23/25					
Antimony	0.306	0.0307	ng/m³ Air	0.24231	0.0664	99.0	75-125			SL
Arsenic	1.27	0.00779	ng/m³ Air	1.2115	0.0891	97.6	75-125			
Barium	5.12	1.35	ng/m³ Air	2.4231	2.78	96.4	75-125			
Beryllium	0.252	0.00166	ng/m³ Air	0.24231	0.0115	99.5	75-125			
Cadmium	0.141	0.00449	ng/m³ Air	0.12115	0.0185	101	75-125			
Chromium	3.31	2.14	ng/m³ Air	1.2115	ND	274	75-125			
Cobalt	0.468	0.0456	ng/m³ Air	0.24231	0.228	99.1	75-125			
Copper	68.6	0.659	ng/m³ Air	12.115	56.5	99.8	75-125			
Lead	24.5	0.117	ng/m³ Air	24.231	0.196	100	75-125			
Manganese	8.35	0.488	ng/m³ Air	2.4231	5.97	97.9	75-125			QB-01
Molybdenum	2.96	0.345	ng/m³ Air	1.2115	1.81	94.7	75-125			
Nickel	3.58	0.647	ng/m³ Air	2.4231	1.21	97.9	75-125			
Selenium	1.39	0.00885	ng/m³ Air	1.2115	0.220	96.4	75-125			
Thallium	0.0620	7.54E-4	ng/m³ Air	6.0577E-2	0.00168	99.6	75-125			
Vanadium	2.28	0.0401	ng/m³ Air	1.2115	1.08	99.3	75-125			QB-01
Zinc	ND	99.9	ng/m³ Air	24.231	ND		75-125			U
Post Spike (B5A2302-PS2)		**Source: 5012123-24**			Prepared & Analyzed: 01/23/25					
Antimony	1.08	0.0298	ng/m³ Air	0.23514	0.845	101	75-125			SL
Arsenic	1.89	0.00756	ng/m³ Air	1.1757	0.728	99.0	75-125			
Barium	7.54	1.31	ng/m³ Air	2.3514	5.18	101	75-125			
Beryllium	0.248	0.00162	ng/m³ Air	0.23514	0.0126	100	75-125			
Cadmium	0.330	0.00435	ng/m³ Air	0.11757	0.210	102	75-125			
Chromium	3.31	2.07	ng/m³ Air	1.1757	2.14	99.2	75-125			
Cobalt	0.598	0.0442	ng/m³ Air	0.23514	0.358	102	75-125			
Copper	80.5	0.639	ng/m³ Air	11.757	67.5	111	75-125			
Lead	28.0	0.114	ng/m³ Air	23.514	4.21	101	75-125			
Manganese	14.0	0.474	ng/m³ Air	2.3514	11.8	96.7	75-125			QB-01

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Post Spike (B5A2302-PS2) Continued		**Source: 5012123-24**		Prepared & Analyzed: 01/23/25						
Molybdenum	4.37	0.335	ng/m³ Air	1.1757	3.22	98.4	75-125			
Nickel	3.54	0.628	ng/m³ Air	2.3514	1.22	98.7	75-125			
Selenium	1.47	0.00859	ng/m³ Air	1.1757	0.288	101	75-125			
Thallium	0.0623	7.32E-4	ng/m³ Air	5.8786E-2	0.00556	96.5	75-125			
Vanadium	2.52	0.0389	ng/m³ Air	1.1757	1.35	99.3	75-125			QB-01
Zinc	ND	96.9	ng/m³ Air	23.514	ND		75-125			U
Dilution Check (B5A2302-SRL1)		**Source: 5012123-03**		Prepared & Analyzed: 01/23/25						
Antimony	ND	0.153	ng/m³ Air		ND				10	SL, U
Arsenic	0.0885	0.0389	ng/m³ Air		0.0891			0.594	10	
Barium	ND	6.75	ng/m³ Air		ND				10	U
Beryllium	0.0104	0.00832	ng/m³ Air		0.0115			9.83	10	
Cadmium	ND	0.0224	ng/m³ Air		ND				10	U
Chromium	ND	10.7	ng/m³ Air		ND				10	U
Cobalt	0.228	0.228	ng/m³ Air		0.228			0.0130	10	
Copper	56.6	3.29	ng/m³ Air		56.5			0.0278	10	
Lead	ND	0.587	ng/m³ Air		ND				10	U
Manganese	5.94	2.44	ng/m³ Air		5.97			0.552	10	QB-01
Molybdenum	1.79	1.73	ng/m³ Air		1.81			1.29	10	
Nickel	ND	3.24	ng/m³ Air		ND				10	U
Selenium	0.232	0.0442	ng/m³ Air		0.220			5.45	10	
Thallium	ND	0.00377	ng/m³ Air		ND				10	U
Vanadium	1.11	0.201	ng/m³ Air		1.08			3.00	10	QB-01
Zinc	ND	499	ng/m³ Air		ND				10	U
Dilution Check (B5A2302-SRL2)		**Source: 5012123-24**		Prepared & Analyzed: 01/23/25						
Antimony	0.831	0.149	ng/m³ Air		0.845			1.64	10	SL
Arsenic	0.725	0.0378	ng/m³ Air		0.728			0.401	10	
Barium	ND	6.55	ng/m³ Air		ND				10	U
Beryllium	0.00982	0.00808	ng/m³ Air		0.0126			24.9	10	
Cadmium	0.206	0.0218	ng/m³ Air		0.210			2.00	10	
Chromium	ND	10.4	ng/m³ Air		ND				10	U
Cobalt	0.369	0.221	ng/m³ Air		0.358			2.94	10	
Copper	69.3	3.20	ng/m³ Air		67.5			2.52	10	
Lead	4.10	0.570	ng/m³ Air		4.21			2.52	10	
Manganese	11.9	2.37	ng/m³ Air		11.8			1.42	10	QB-01
Molybdenum	3.22	1.67	ng/m³ Air		3.22			0.216	10	
Nickel	ND	3.14	ng/m³ Air		ND				10	U
Selenium	0.292	0.0429	ng/m³ Air		0.288			1.38	10	
Thallium	0.00723	0.00366	ng/m³ Air		0.00556			26.1	10	

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2302 - ICP-MS Extraction										
Dilution Check (B5A2302-SRL2) ContinueSource: 5012123-24 Prepared & Analyzed: 01/23/25										
Vanadium	1.38	0.195	ng/m³ Air		1.35			2.03	10	QB-01
Zinc	ND	485	ng/m³ Air		ND				10	U

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SUBMITTED: 01/20/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/29/2025 and Shanna Vasser 02/03/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 01/09/2025 – 01/15/2025
Report No: 5012123

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, copper, and vanadium in MFL-FB01-011025-HM; for antimony, arsenic, copper, and vanadium in MFL-FB01-011225-HM; and for copper in MFL-FB01-011425-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

January 16 through January 22, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from January 16 through January 22, 2025, at the community locations listed below and shown on **Figure 1**. Following conversations between Tetra Tech and the Hawaii Department of Health (HDOH), the Lahaina Intermediate School station was relocated to Maria Lanakila Catholic Church (AM-09) on January 18. The monitoring and sampling station located at Lahaina Intermediate School (AM-03) was relocated because the Maria Lanakila Catholic Church location was more representative of the active work area and provided a more accurate representation of air quality related to debris removal operations.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	1/16/2025 - 1/22/2025
Lahaina Intermediate School	AM-03	1/16/2025 - 1/18/2025
Opukea Townhomes	AM-05	1/16/2025 - 1/22/2025
Lahaina Pump Station #6	AM-08	1/16/2025 - 1/22/2025
Maria Lanakila Catholic Church	AM-09	1/18/2025 - 1/22/2025

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 16 through January 22, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of the relocation of the Lahaina Intermediate School sampling and monitoring location, as described below:

- The air monitoring and sampling station located at Lahaina Intermediate School (AM-03) was relocated to Maria Lanakila Catholic Church (AM-09) at the guidance of the HDOH on January 18 to better encompass the active work area, and to close any gaps in sampling. As a result of the time needed for station removal and set up, only 13 hours of monitoring was conducted at Lahaina Intermediate School (AM-03) and 9 hours of monitoring was conducted at Maria Lanakila Catholic Church (AM-09) on January 18.

The PM_{10} monitoring results were found to have exceeded the 150 µg/m^3 TWA screening level on one day, at the Lahaina Intermediate School and Lahaina Pump Station #6 monitoring locations on January 17, as shown in **Table 1**.

The air monitoring and sampling stations at Lahaina Intermediate School and Lahaina Pump Station #6 exceedances may have been attributable to high humidity. The exceedances on January 17 are described below:

- On January 17, no United States Army Corps of Engineers (USACE) debris crew or private contractor activities were observed near either the Lahaina Intermediate School or the Lahaina Pump Station #6 monitoring station. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted near those monitoring locations.
    - Humidity averaged 76 percent at Lahaina Intermediate School and 74 percent at Lahaina Pump Station #6 with humidity reaching as high as 92 percent throughout the day. Excessive humid conditions can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4 (AM-02) on January 20 and 21.

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

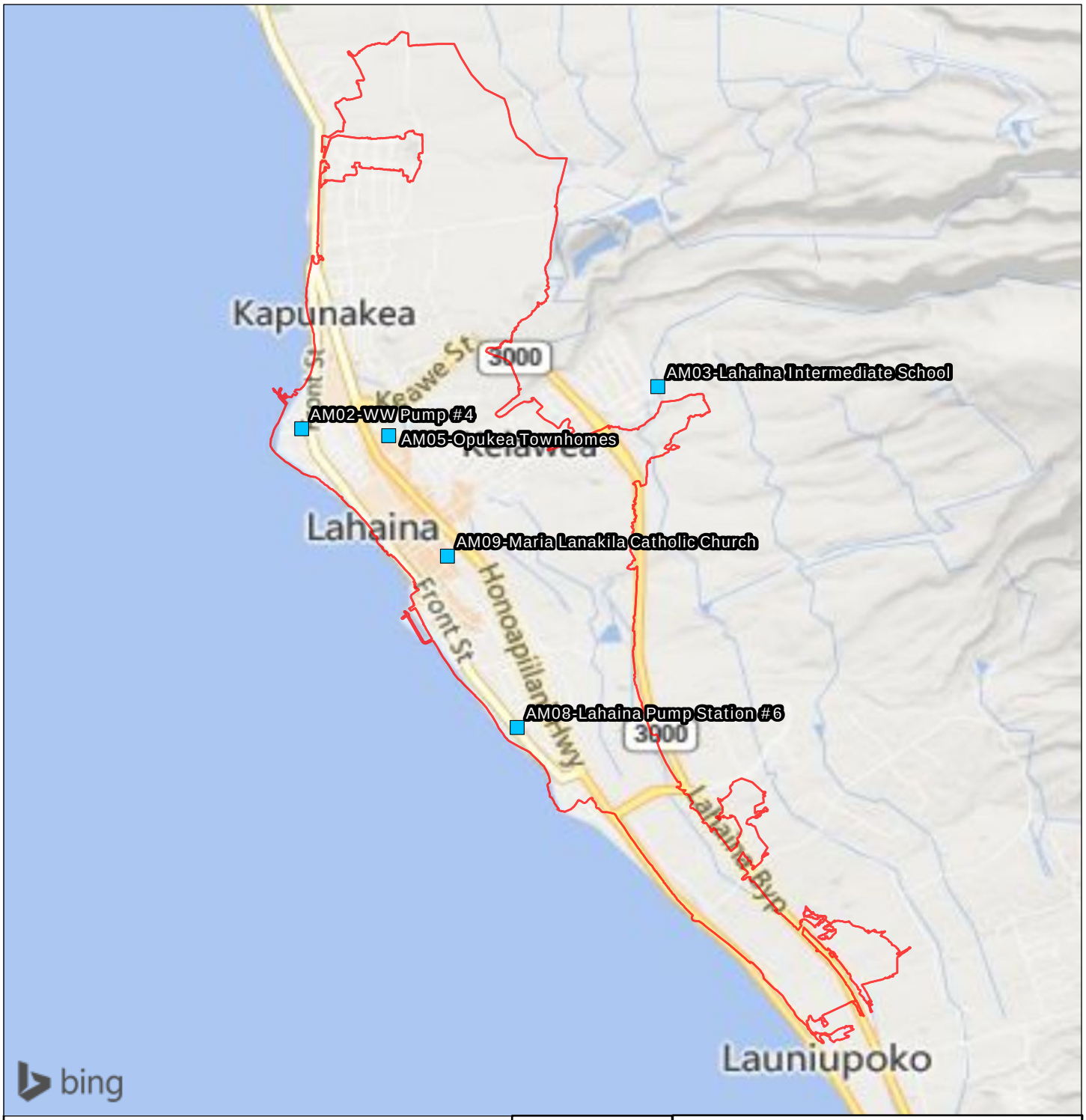
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Lahaina Fire Perimeter

Air Sampling Locations

0 0.3 0.5

Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Path: \\etss706gisfs1\CORPArcGisShare\EMI\Denver\Lahaina_Fire\Lahaina_Fire\Lahaina_Fire.aprx\Lahaina_Fire_AML_orig

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 16 through January 22, 2025

Screening Level		TWA Results 150 (µg/m³)
1/16/2025	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	17
	Lahaina Pump Station #6 (AM-08)	7.8
1/17/2025	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	**209**
	Lahaina Pump Station #6 (AM-08)	**214**
1/18/2025	Opukea Townhomes (AM-05)	7.2
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	16*
	Maria Lanakila Catholic Church (AM-09)	6.2**
	Lahaina Pump Station #6 (AM-08)	5.3
1/19/2025	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	7.6
	Maria Lanakila Catholic Church (AM-09)	123
	Lahaina Pump Station #6 (AM-08)	6.0
1/20/2025	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	6.6
	Maria Lanakila Catholic Church (AM-09)	110
	Lahaina Pump Station #6 (AM-08)	5.8
1/21/2025	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	6.9
	Maria Lanakila Catholic Church (AM-09)	99
	Lahaina Pump Station #6 (AM-08)	4.6
1/22/2025	Opukea Townhomes (AM-05)	9.6
	WW Pump Station #4 (AM-02)	13
	Maria Lanakila Catholic Church (AM-09)	132
	Lahaina Pump Station #6 (AM-08)	120

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Shaded cell indicates an exceedance of screening level
* Data provided were from a reduced (13-hr) TWA calculation because station equipment was moved to Maria Lanakila Catholic Church (AM-09)
** Data provided were from a reduced (9-hr) TWA calculation because station equipment was moved from Lahaina Intermediate School (AM-03)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 16 through January 22, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
1/16/2025	Opukea Townhomes (AM-05)	<0.0024	0.000277	0.000173	0.00354	0.00000597	0.0000691	ND	0.000186	0.0543	0.00132	0.00626	0.00238	0.000965	0.000203	0.00000162	0.000951	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000585	0.000251	0.00885	0.0000119	0.0000614	0.00198	0.000382	0.0294	0.00177	0.0119	0.00166	0.00139	0.000255	0.00000190	0.00165	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000193	0.000191	0.00326	0.0000213	0.0000628	0.00226	0.000405	0.0504	0.00132	0.00994	0.00186	0.00152	0.000255	0.00000199	0.00133	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000233	0.000500	0.00396	0.0000107	0.0000668	ND	0.000370	0.0328	0.00172	0.0119	0.00197	0.00131	0.000259	0.00000207	0.00132	ND
1/17/2025	Opukea Townhomes (AM-05)	<0.0024	0.000265	0.000206	0.00361	0.00000615	0.0000876	ND	0.000206	0.0751	0.00150	0.00636	0.00256	0.00114	0.000382	0.00000314	0.000879	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000356	0.000281	0.00576	0.00000659	0.000109	ND	0.000226	0.0352	0.00170	0.00703	0.00201	0.00115	0.000396	0.00000315	0.000953	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000189	0.000147	0.00263	0.00000919	0.0000817	ND	0.000233	0.0318	0.00119	0.00528	0.00165	0.00141	0.000375	0.00000291	0.000933	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000213	0.000387	0.00269	0.00000443	0.0000773	ND	0.000169	0.0391	0.00129	0.00497	0.00220	0.00112	0.000335	0.00000266	0.000772	ND
1/18/2025	Opukea Townhomes (AM-05)	<0.0024	0.000302	0.000281	0.00455	0.0000103	0.0000445	ND	0.000332	0.0754	0.00108	0.0103	0.00285	0.00173	0.000207	0.00000205	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000168	0.000283	0.00401	0.00000721	0.0000387	ND	0.000223	0.0401	0.00109	0.00666	0.00236	0.00147	0.000226	0.00000180	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000106	0.000139	0.00157	0.00000356	0.0000383	ND	0.0000902	0.0305	0.000670	0.00223	0.00163	0.000991	0.000159	0.00000174	0.000540	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000205	0.000314	0.00280	0.00000455	0.0000414	ND	0.000132	0.0320	0.000806	0.00388	0.00199	0.00107	0.000189	0.00000154	0.000641	ND
1/19/2025	Opukea Townhomes (AM-05)	<0.0024	0.000153	0.000371	0.00399	0.00000871	0.0000342	0.00234	0.000303	0.0841	0.000684	0.00995	0.00298	0.00120	0.000183	0.00000269	0.000980	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000260	0.000515	0.00697	0.0000159	0.0000503	0.00240	0.000462	0.0475	0.00151	0.0152	0.00228	0.00159	0.000211	0.00000275	0.00165	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.000107	0.000332	0.00265	0.00000324	0.0000327	ND	0.000117	0.0279	0.000494	0.00327	0.00153	0.000742	0.000169	0.00000228	0.000337	ND
	Lahaina Pump Station #6 (AM-08)	<0.0030	0.000146	0.000343	0.00228	0.00000302	0.0000191	ND	0.000112	0.0348	0.000472	0.00343	0.00223	0.000707	0.000148	0.00000216	0.000320	ND
1/20/2025	Opukea Townhomes (AM-05)	<0.0024	0.000165	0.000431	0.00479	0.00000954	0.0000696	0.00356	0.000351	0.0779	0.000825	0.0112	0.00290	0.00147	0.000201	0.00000298	0.00113	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000214	0.000521	0.00797	0.0000157	0.000296	0.00269	0.000514	0.0541	0.00198	0.0160	0.00243	0.00183	0.000232	0.00000314	0.00173	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000139	0.000404	0.00353	0.00000749	0.0000238	ND	0.000251	0.0302	0.000835	0.00703	0.00158	0.00104	0.000194	0.00000262	0.000713	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000422	0.00276	0.00000516	0.0000219	ND	0.000175	0.0388	0.000610	0.00541	0.00216	0.00102	0.000158	0.00000251	0.000551	ND
1/21/2025	Opukea Townhomes (AM-05)	<0.0024	0.000115	0.000191	0.00381	0.00000752	0.0000128	ND	0.000273	0.0825	0.000396	0.00857	0.00283	0.00111	0.000166	0.00000112	0.000891	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000251	0.000285	0.00900	0.0000163	0.0000156	0.00280	0.000547	0.0500	0.00117	0.0157	0.00228	0.00174	0.000217	0.00000131	0.00172	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000939	0.000181	0.00380	0.00000589	0.00000935	ND	0.000204	0.0244	0.000456	0.00597	0.00157	0.000925	0.000159	0.000000756	0.000592	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000866	0.000440	0.00329	0.00000669	0.00000896	ND	0.000312	0.0424	0.000332	0.00836	0.00225	0.00101	0.000160	0.000000892	0.000746	ND
1/22/2025	Opukea Townhomes (AM-05)	<0.0024	0.000115	0.000151	0.00411	0.00000584	0.00000764	0.00223	0.000250	0.0589	0.000381	0.00746	0.00246	0.00148	0.000179	ND	0.000957	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000198	0.000219	0.00607	0.0000113	0.0000113	0.00209	0.000394	0.0542	0.000711	0.0121	0.00269	0.00152	0.000217	0.000000803	0.00148	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000843	0.000196	0.00362	0.00000573	0.0000166	ND	0.000200	0.0280	0.000801	0.00605	0.00171	0.000990	0.000183	0.000000721	0.000807	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000190	0.00258	0.00615	0.0000166	0.0000191	0.00373	0.000605	0.0416	0.00145	0.0180	0.00229	0.00178	0.000220	0.00000473	0.00195	ND
95% Upper Confidence Limit[2]		NA	0.000230	0.000450	0.00506	0.0000110	0.0000750	0.00298	0.000330	0.0529	0.00126	0.0106	0.00234	0.00138	0.000240	0.00000260	0.00125	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 16 through January 22, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/16/2025	AM-02	WW Pump Station #4	0.9	SE	76	68	762.2
1/16/2025	AM-03	Lahaina Intermediate School	1.2	SE	74	69	752.8
1/16/2025	AM-05	Opukea Townhomes	1.2	SE	76	68	761.6
1/16/2025	AM-08	Lahaina Pump Station #6	1.6	SE	75	67	762.0
1/17/2025	AM-02	WW Pump Station #4	0.9	SSE	74	76	761.0
1/17/2025	AM-03	Lahaina Intermediate School	1.3	SSE	73	76	751.6
1/17/2025	AM-05	Opukea Townhomes	1.1	ESE	75	75	760.4
1/17/2025	AM-08	Lahaina Pump Station #6	1.5	SE	74	74	760.8
1/18/2025	AM-02	WW Pump Station #4	1.3	SE	75	60	762.0
1/18/2025	AM-03	Lahaina Intermediate School	1.5	SE	72	64	752.5
1/18/2025	AM-05	Opukea Townhomes	1.7	ESE	75	59	761.3
1/18/2025	AM-08	Lahaina Pump Station #6	1.6	SE	73	59	761.8
1/18/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	75	54	761.7
1/19/2025	AM-02	WW Pump Station #4	1.0	SSE	74	58	763.6
1/19/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	74	59	763.0
1/19/2025	AM-05	Opukea Townhomes	1.3	ESE	75	57	762.8
1/19/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	58	763.4
1/20/2025	AM-02	WW Pump Station #4	0.9	SSE	73	62	763.4
1/20/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	63	762.9
1/20/2025	AM-05	Opukea Townhomes	1.4	SE	74	61	762.7
1/20/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	61	763.2
1/21/2025	AM-02	WW Pump Station #4	0.9	SSE	73	62	761.5
1/21/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	62	761.0
1/21/2025	AM-05	Opukea Townhomes	1.3	ESE	74	62	760.8
1/21/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	60	761.3
1/22/2025	AM-02	WW Pump Station #4	1.0	SE	72	76	760.1
1/22/2025	AM-09	Maria Lanakila Catholic Church	0.9	SSE	71	78	759.6
1/22/2025	AM-05	Opukea Townhomes	1.2	S	72	78	759.4
1/22/2025	AM-08	Lahaina Pump Station #6	1.8	SE	71	76	760.0

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/23/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011625-AB**		**Sample Description:**	**DL915257**
EMSL Sample Number:	042501398-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0001 **Customer Sample:** MFL-AM05-011625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A8	None Detected									
A5	E4	None Detected									
A5	I7	None Detected									
A6	C3	None Detected									
A6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011625-AB**	**Sample Description:**	**DL915256**
EMSL Sample Number:	042501398-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7226.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0002 **Customer Sample:** MFL-AM02-011625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	E7	None Detected									
B1	B9	None Detected									
B2	A4	None Detected									
B2	D1	None Detected									
B2	G1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011625-AB**	**Sample Description:**	**DL915233**
EMSL Sample Number:	042501398-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7228.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0003 **Customer Sample:** MFL-AM03-011625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	A3	None Detected									
B6	E5	None Detected									
B6	G7	None Detected									
B7	C8	None Detected									
B7	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-011625-AB** **Sample Description: DL915196**

EMSL Sample Number:	042501398-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0004 **Customer Sample:** MFL-AM08-011625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	F7	None Detected									
C1	I5	None Detected									
C2	C10	None Detected									
C2	E7	None Detected									
C2	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011625-AB** **Sample Description: DL915254**

EMSL Sample Number:	042501398-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0005 **Customer Sample:** MFL-FB01-011625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	H5	None Detected									
C5	F7	None Detected									
C5	D9	None Detected									
C5	B5	None Detected									
C6	A2	None Detected									
C6	C3	None Detected									
C6	E3	None Detected									
C6	G4	None Detected									
C6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-011725-AB** **Sample Description: DL915178**

EMSL Sample Number:	042501398-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7325.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0006 **Customer Sample:** MFL-AM05-011725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	B4	None Detected									
D2	D3	None Detected									
D2	G2	None Detected									
D3	H7	None Detected									
D3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011725-AB**	**Sample Description:**	**DL915183**
EMSL Sample Number:	042501398-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7187.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0007 **Customer Sample:** MFL-AM02-011725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I5	None Detected									
D5	G7	None Detected									
D5	A7	None Detected									
D6	B6	None Detected									
D6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011725-AB**	**Sample Description:**	**DL915168**
EMSL Sample Number:	042501398-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7213.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0008 **Customer Sample:** MFL-AM03-011725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	A6	None Detected									
E2	E3	None Detected									
E2	G5	None Detected									
E3	A5	None Detected									
E3	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011725-AB**	**Sample Description:**	**DL915203**
EMSL Sample Number:	042501398-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7268.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0009 **Customer Sample:** MFL-AM08-011725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	G7	None Detected									
E5	D8	None Detected									
E6	I6	None Detected									
E6	B7	None Detected									

Abbreviations used:
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Customer PO:	1207085
Project ID:	N/A

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Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-011725-AB**		**Sample Description:**	**DL915184**
EMSL Sample Number:	042501398-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0010 **Customer Sample:** MFL-FB01-011725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F3	A10	None Detected									
F3	C8	None Detected									
F3	E4	None Detected									
F3	G8	None Detected									
F3	I9	None Detected									
F4	A3	None Detected									
F4	C9	None Detected									
F4	E4	None Detected									
F4	G6	None Detected									
F4	I4	None Detected									

Abbreviations used:
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Analysis Date:	01/24/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011825-AB**	**Sample Description:**	**DL915187**
EMSL Sample Number:	042501398-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7128.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0011 **Customer Sample:** MFL-AM05-011825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J2	None Detected									
F5	H5	None Detected									
F5	E7	None Detected									
F6	J6	None Detected									
F6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011825-AB**	**Sample Description:**	**DL915158**
EMSL Sample Number:	042501398-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7232.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0012 **Customer Sample:** MFL-AM02-011825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A4	None Detected									
G2	D7	None Detected									
G2	H8	None Detected									
G3	J2	None Detected									
G3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-011825-AB**	**Sample Description:**	**DL915255**
EMSL Sample Number:	042501398-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7243.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0013 **Customer Sample:** MFL-AM03-011825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J6	None Detected									
G5	G3	None Detected									
G5	D4	None Detected									
G6	C6	None Detected									
G6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011825-AB**	**Sample Description:**	**DL915177**
EMSL Sample Number:	042501398-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7029.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0014 **Customer Sample:** MFL-AM08-011825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A5	None Detected									
H1	D3	None Detected									
H1	G2	None Detected									
H2	B3	None Detected									
H2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011825-AB** **Sample Description: DL915194**

EMSL Sample Number:	042501398-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0015 **Customer Sample:** MFL-FB01-011825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	C4	None Detected									
H5	E10	None Detected									
H5	G8	None Detected									
H5	I7	None Detected									
H6	A8	None Detected									
H6	C9	None Detected									
H6	E4	None Detected									
H6	G8	None Detected									
H6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-011925-AB**	**Sample Description:**	**DL915165**
EMSL Sample Number:	042501398-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7192.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0016 **Customer Sample:** MFL-AM05-011925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	D10	None Detected									
I1	G8	None Detected									
I1	I10	None Detected									
I2	D7	None Detected									
I2	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-011925-AB**	**Sample Description:**	**DL915248**
EMSL Sample Number:	042501398-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7068.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0017 **Customer Sample:** MFL-AM02-011925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	C9	None Detected									
I5	F8	None Detected									
I5	I5	None Detected									
I6	G4	None Detected									
I6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-011925-AB**	**Sample Description:**	**DL915170**
EMSL Sample Number:	042501398-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6815.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0018 **Customer Sample:** MFL-AM09-011925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A7	None Detected									
J2	C5	None Detected									
J2	G1	None Detected									
J3	B2	None Detected									
J3	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-011925-AB**	**Sample Description:**	**DL915182**
EMSL Sample Number:	042501398-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7407.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0010**	**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.06**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0019 **Customer Sample:** MFL-AM08-011925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	C3	None Detected									
J5	G4	None Detected									
J6	A7	None Detected									
J6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/24/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-011925-AB** **Sample Description: Dl915215**

EMSL Sample Number:	042501398-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0020 **Customer Sample:** MFL-FB01-011925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	J2	None Detected									
K2	H1	None Detected									
K2	F4	None Detected									
K2	D2	None Detected									
K2	B1	None Detected									
K3	J4	None Detected									
K3	H3	None Detected									
K3	F1	None Detected									
K3	D3	None Detected									
K3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501398
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/22/2025 09:40 AM
Analysis Date:	01/23/2025
Report Date:	01/27/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042501398-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0131
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501398
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501398-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	G6	None Detected									
A1	D9	None Detected									
A2	I7	None Detected									
A2	F4	None Detected									
A2	D8	None Detected									
A2	A6	None Detected									
A3	B5	None Detected									
A3	C2	None Detected									
A3	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042501398

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042501398

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON, NJ 25 JAN 22 AM 8:00

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-011625-AB	DL915257	7,231.232	01/16/25 1051
MFL-AM02-011625-AB	DL915256	7,226.640	01/16/25 1113
MFL-AM03-011625-AB	DL915233	7,228.239	01/16/25 1254
MFL-AM08-011625-AB	DL915196	7,219.043	01/16/25 1317
MFL-FB01-011625-AB	DL915254	0	01/16/25 1200
MFL-AM05-011725-AB	DL915178	7,325,460	01/17/25 1054
MFL-AM02-011725-AB	DL915183	7,187.770	01/17/25 1111
MFL-AM03-011725-AB	DL915168	7,213.149	01/17/25 1252

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Shaina Epstein	Date/Time: 1/20/25 1100	Received by: FT	Date/Time 1/22/25 940
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042501398

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042501398

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-011725-AB	DL915203	7,268.706	01/17/25 1315
MFL-FB01-011725-AB	DL915184	0	01/17/25 1200
MFL-AM05-011825-AB	DL915187	7,128.448	01/18/25 1054
MFL-AM02-011825-AB	DL915158	7,232.702	01/18/25 1117
MFL-AM03-011825-AB	DL915255	7,243.181	01/18/25 1254
MFL-AM08-011825-AB	~~DL915117~~ (C) DL915177	7,029.739	01/18/25 1231
MFL-FB01-011825-AB	DL915194	0	01/18/25 1200
MFL-AM05-011925-AB	DL915165	7,192.780	01/19/25 1053
MFL-AM02-011925-AB	DL915248	7,068.710	01/19/25 1111
MFL-AM09-011925-AB	DL915170	6,815.290	01/19/25 1252
MFL-AM08-011925-AB	DL915182	7,407.587	01/19/25 1308
MFL-FB01-011925-AB	DL915215	0	01/19/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 22 AM 10:48

Method of Shipment: Fedex			Sample Condition Upon Receipt:		
Relinquished by: Sheina Epstein	Date/Time: 1/20/25 1100		Received by:	Date/Time	1/22/25
Relinquished by:	Date/Time:		Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 01/27/2025 and Shanna Vasser 01/28/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/16/2025 – 01/19/2025
Report No: 42501398

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012025-AB**		**Sample Description:**	**DL915186**
EMSL Sample Number:	042501639-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0001 **Customer Sample:** MFL-AM05-012025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A8	None Detected									
A5	C7	None Detected									
A5	G7	None Detected									
A6	D7	None Detected									
A6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012025-AB**		**Sample Description:**	**DL915167**
EMSL Sample Number:	042501639-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7202.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0002 **Customer Sample:** MFL-AM02-012025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I3	None Detected									
B2	F1	None Detected									
B2	C5	None Detected									
B3	I5	None Detected									
B3	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012025-AB**		**Sample Description:**	**DL915181**
EMSL Sample Number:	042501639-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0003 **Customer Sample:** MFL-AM09-012025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J4	None Detected									
B5	G6	None Detected									
B5	B4	None Detected									
B6	I2	None Detected									
B6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012025-AB**		**Sample Description:**	**DL915175**
EMSL Sample Number:	042501639-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0004 **Customer Sample:** MFL-AM08-012025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	J3	None Detected									
C1	G1	None Detected									
C1	D3	None Detected									
C2	I3	None Detected									
C2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012025-AB** **Sample Description: DL915190**

EMSL Sample Number:	042501639-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0005 **Customer Sample:** MFL-FB01-012025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J5	None Detected									
C5	H7	None Detected									
C5	F3	None Detected									
C5	D8	None Detected									
C5	B2	None Detected									
C6	J8	None Detected									
C6	H5	None Detected									
C6	F7	None Detected									
C6	D4	None Detected									
C6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012125-AB**		**Sample Description:**	**DL915164**
EMSL Sample Number:	042501639-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0006 **Customer Sample:** MFL-AM05-012125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B5	None Detected									
D1	F3	None Detected									
D1	H5	None Detected									
D2	B5	None Detected									
D2	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	01/31/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012125-AB**		**Sample Description:**	**DL915189**
EMSL Sample Number:	042501639-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7254.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0007 **Customer Sample:** MFL-AM02-012125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A3	None Detected									
D5	G5	None Detected									
D5	J6	None Detected									
D6	G9	None Detected									
D6	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012125-AB**		**Sample Description:**	**DL915180**
EMSL Sample Number:	042501639-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0008 **Customer Sample:** MFL-AM09-012125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	I3	None Detected									
E1	G6	None Detected									
E1	C7	None Detected									
E2	C3	None Detected									
E2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012125-AB**		**Sample Description:**	**DL915156**
EMSL Sample Number:	042501639-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7257.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0009 **Customer Sample:** MFL-AM08-012125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I5	None Detected									
E5	F3	None Detected									
E5	C5	None Detected									
E6	I5	None Detected									
E6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-012125-AB**		**Sample Description:**	**DL915172**
EMSL Sample Number:	042501639-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0010 **Customer Sample:** MFL-FB01-012125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B3	None Detected									
F1	D4	None Detected									
F1	F7	None Detected									
F1	H6	None Detected									
F1	J6	None Detected									
F2	J9	None Detected									
F2	H10	None Detected									
F2	F8	None Detected									
F2	D9	None Detected									
F2	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012225-AB**		**Sample Description:**	**DL915243**
EMSL Sample Number:	042501639-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0011 **Customer Sample:** MFL-AM05-012225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A4	None Detected									
F5	E7	None Detected									
F5	H9	None Detected									
F6	A5	None Detected									
F6	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012225-AB**		**Sample Description:**	**DL915162**
EMSL Sample Number:	042501639-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0012 **Customer Sample:** MFL-AM02-012225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A3	None Detected									
G1	E4	None Detected									
G1	H7	None Detected									
G2	J6	None Detected									
G2	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012225-AB**		**Sample Description:**	**DL915191**
EMSL Sample Number:	042501639-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7188.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0013 **Customer Sample:** MFL-AM09-012225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I6	None Detected									
G5	E3	None Detected									
G5	D7	None Detected									
G6	B5	None Detected									
G6	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
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Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012225-AB**		**Sample Description:**	**DL915185**
EMSL Sample Number:	042501639-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7253.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0014 **Customer Sample:** MFL-AM08-012225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J3	None Detected									
H1	D5	None Detected									
H1	C8	None Detected									
H2	B5	None Detected									
H2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012225-AB** **Sample Description: DL915230**

EMSL Sample Number:	042501639-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0015 **Customer Sample:** MFL-FB01-012225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	J7	None Detected									
H5	H4	None Detected									
H5	F7	None Detected									
H5	D6	None Detected									
H5	B6	None Detected									
H6	A3	None Detected									
H6	C4	None Detected									
H6	E3	None Detected									
H6	G8	None Detected									
H6	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501639
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/27/2025 08:50 AM
Analysis Date:	01/31/2025
Report Date:	01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042501639-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501639
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501639-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	E10	None Detected									
A1	D8	None Detected									
A1	C6	None Detected									
A1	B4	None Detected									
A1	A2	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E8	None Detected									
A2	G8	None Detected									
A2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only
#042501639

RECEIVED EMSL CINNAMINSON, NJ
25 JAN 27 AM 9:16

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples In Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-012025-AB	DL915186	7,223.799	01/20/25 1054
MFL-AM02-012025-AB	DL915167	7,202.122	01/20/25 1108
MFL-AM09-012025-AB	DL915181	7,166.789	01/20/25 1252
MFL-AM08-012025-AB	DL915175	7,238.744	01/20/25 1308
MFL-FB01-012025-AB	DL915190	0	01/20/25 1200
MFL-AM05-012125-AB	DL915164	7,270.380	01/21/25 1052
MFL-AM02-012125-AB	DL915189	7,254.720	01/21/25 1112
MFL-AM09-012125-AB	DL915180	7,201.548	01/21/25 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 01/23/25 1100	Received by: FX Date/Time: 1/27/25 850a
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

150

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number | Lab Use Only

#042501639

RECEIVED EMSL CINNAMINSON, NJ 25 JAN 27 AM 9:16

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information.

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-012125-AB	DL915156	7,257.904	01/21/25 1306
MFL-FB01-012125-AB	DL915172	0	01/21/25 1200
MFL-AM05-012225-AB	DL915243	7,268.116	01/22/25 1057
MFL-AM02-012225-AB	DL915162	7,213.104	01/22/25 1118
MFL-AM09-012225-AB	DL915191	7,188.768	01/22/25 1254
MFL-AM08-012225-AB	DL915185	7,253.355	01/22/25 1327
MFL-FB01-012225-AB	DL915230	0	01/22/25 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shantel Epstein	Date/Time: 01/23/25 1100	Received by: FX	Date/Time: 1/27/25 850am
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/03/2025 and Shanna Vasser 02/04/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/20/2025 – 01/22/2025
Report No: 42501639

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

February 05, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/27/25 10:52.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-011625-HM	5012731-01	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM02-011625-HM	5012731-02	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM03-011625-HM	5012731-03	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM08-011625-HM	5012731-04	Air	01/16/25 23:59	01/27/25 10:52
MFL-FB01-011625-HM	5012731-05	Air	01/16/25 00:00	01/27/25 10:52
MFL-AM05-011725-HM	5012731-06	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM02-011725-HM	5012731-07	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM03-011725-HM	5012731-08	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM08-011725-HM	5012731-09	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM05-011825-HM	5012731-10	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM02-011825-HM	5012731-11	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM03-011825-HM	5012731-12	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM08-011825-HM	5012731-13	Air	01/18/25 23:59	01/27/25 10:52
MFL-FB01-011825-HM	5012731-14	Air	01/18/25 00:00	01/27/25 10:52
MFL-AM05-011925-HM	5012731-15	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM02-011925-HM	5012731-16	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM09-011925-HM	5012731-17	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM08-011925-HM	5012731-18	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM05-012025-HM	5012731-19	Air	01/20/25 23:59	01/27/25 10:52
MFL-AM02-012025-HM	5012731-20	Air	01/20/25 23:59	01/27/25 10:52
MFL-AM09-012025-HM	5012731-21	Air	01/20/25 23:59	01/27/25 10:52

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM08-012025-HM	5012731-22	Air	01/20/25 23:59	01/27/25 10:52
MFL-FB01-012025-HM	5012731-23	Air	01/20/25 00:00	01/27/25 10:52
MFL-AM05-012125-HM	5012731-24	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM02-012125-HM	5012731-25	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM09-012125-HM	5012731-26	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM08-012125-HM	5012731-27	Air	01/21/25 23:59	01/27/25 10:52
MFL-LB01-012125-HM	5012731-28	Air	01/21/25 00:00	01/27/25 10:52
MFL-AM05-012225-HM	5012731-29	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM02-012225-HM	5012731-30	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM09-012225-HM	5012731-31	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM08-012225-HM	5012731-32	Air	01/22/25 23:59	01/27/25 10:52
MFL-FB01-012225-HM	5012731-33	Air	01/22/25 00:00	01/27/25 10:52

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011625-HM
Matrix: Air
Lab ID: 5012731-01
Sample Volume: 1978.384 m³
Filter ID:
Sampled: 01/16/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 00:48

Comments: Q8522457 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.277**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.173**		**0.00731**
Barium	**7440-39-3**	**3.54**		**1.27**
Beryllium	**7440-41-7**	**0.00597**		**0.00156**
Cadmium	**7440-43-9**	**0.0691**		**0.00421**
Chromium	7440-47-3	1.36	U	2.01
Cobalt	**7440-48-4**	**0.186**		**0.0428**
Copper	**7440-50-8**	**54.3**		**0.618**
Lead	**7439-92-1**	**1.32**		**0.110**
Manganese	**7439-96-5**	**6.26**		**0.458**
Molybdenum	**7439-98-7**	**2.38**		**0.324**
Nickel	**7440-02-0**	**0.965**		**0.608**
Selenium	**7782-49-2**	**0.203**		**0.00831**
Thallium	**7440-28-0**	**0.00162**		**7.08E-4**
Vanadium	**7440-62-2**	**0.951**		**0.0377**
Zinc	7440-66-6	19.5	U	93.8

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011625-HM
Matrix: Air
Lab ID: 5012731-02
Sample Volume: 2089.008 m³
Filter ID:
Sampled: 01/16/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 01:04

Comments: Q8522456 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.585**	SL	**0.0273**
Arsenic	**7440-38-2**	**0.251**		**0.00692**
Barium	**7440-39-3**	**8.85**		**1.20**
Beryllium	**7440-41-7**	**0.0119**		**0.00148**
Cadmium	**7440-43-9**	**0.0614**		**0.00399**
Chromium	**7440-47-3**	**1.98**		**1.90**
Cobalt	**7440-48-4**	**0.382**		**0.0405**
Copper	**7440-50-8**	**29.4**		**0.586**
Lead	**7439-92-1**	**1.77**		**0.104**
Manganese	**7439-96-5**	**11.9**		**0.434**
Molybdenum	**7439-98-7**	**1.66**		**0.307**
Nickel	**7440-02-0**	**1.39**		**0.576**
Selenium	**7782-49-2**	**0.255**		**0.00787**
Thallium	**7440-28-0**	**0.00190**		**6.71E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0357**
Zinc	7440-66-6	25.1	U	88.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011625-HM
Matrix: Air
Lab ID: 5012731-03
Sample Volume: 2059.207 m³
Filter ID:
Sampled: 01/16/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 01:20

Comments: Q8522455 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.193**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.191**		**0.00702**
Barium	**7440-39-3**	**3.26**		**1.22**
Beryllium	**7440-41-7**	**0.0213**		**0.00150**
Cadmium	**7440-43-9**	**0.0628**		**0.00405**
Chromium	**7440-47-3**	**2.26**		**1.93**
Cobalt	**7440-48-4**	**0.405**		**0.0411**
Copper	**7440-50-8**	**50.4**		**0.594**
Lead	**7439-92-1**	**1.32**		**0.106**
Manganese	**7439-96-5**	**9.94**		**0.440**
Molybdenum	**7439-98-7**	**1.86**		**0.311**
Nickel	**7440-02-0**	**1.52**		**0.584**
Selenium	**7782-49-2**	**0.255**		**0.00798**
Thallium	**7440-28-0**	**0.00199**		**6.80E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0362**
Zinc	7440-66-6	13.2	U	90.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011625-HM
Matrix: Air
Lab ID: 5012731-04
Sample Volume: 1825.208 m³
Filter ID:
Sampled: 01/16/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 01:37

Comments: Q8522454 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.233**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.500**		**0.00792**
Barium	**7440-39-3**	**3.96**		**1.37**
Beryllium	**7440-41-7**	**0.0107**		**0.00169**
Cadmium	**7440-43-9**	**0.0668**		**0.00456**
Chromium	7440-47-3	1.97	U	2.18
Cobalt	**7440-48-4**	**0.370**		**0.0464**
Copper	**7440-50-8**	**32.8**		**0.670**
Lead	**7439-92-1**	**1.72**		**0.119**
Manganese	**7439-96-5**	**11.9**		**0.497**
Molybdenum	**7439-98-7**	**1.97**		**0.351**
Nickel	**7440-02-0**	**1.31**		**0.659**
Selenium	**7782-49-2**	**0.259**		**0.00900**
Thallium	**7440-28-0**	**0.00207**		**7.67E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0408**
Zinc	7440-66-6	17.4	U	102

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-011625-HM
Matrix: Air
Lab ID: 5012731-05
Sample Volume: 1978.384 m³
Filter ID:
Sampled: 01/16/25 00:00
Received: 01/27/25 10:52
Analysis Date: 01/29/25 01:52

Comments: Q8522447 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0217	SL, U	0.0288
Arsenic	7440-38-2	0.00681	U	0.00731
Barium	7440-39-3	0.847	U	1.27
Beryllium	7440-41-7	3.01E-4	U	0.00156
Cadmium	7440-43-9	7.38E-4	U	0.00421
Chromium	7440-47-3	0.904	U	2.01
Cobalt	7440-48-4	0.0147	U	0.0428
Copper	**7440-50-8**	**0.697**	FB-01	**0.618**
Lead	7439-92-1	0.0300	U	0.110
Manganese	7439-96-5	0.229	U	0.458
Molybdenum	7439-98-7	0.182	U	0.324
Nickel	7440-02-0	0.476	U	0.608
Selenium	7782-49-2	0.00469	U	0.00831
Thallium	7440-28-0	1.00E-4	U	7.08E-4
Vanadium	7440-62-2	0.0163	U	0.0377
Zinc	7440-66-6	4.40	U	93.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011725-HM
Matrix: Air
Lab ID: 5012731-06
Sample Volume: 1902.575 m³
Filter ID:
Sampled: 01/17/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/28/25 22:03

Comments: Q8522453 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.265**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.206**		**0.00760**
Barium	**7440-39-3**	**3.61**		**1.32**
Beryllium	**7440-41-7**	**0.00615**		**0.00162**
Cadmium	**7440-43-9**	**0.0876**		**0.00438**
Chromium	7440-47-3	1.71	U	2.09
Cobalt	**7440-48-4**	**0.206**		**0.0445**
Copper	**7440-50-8**	**75.1**		**0.643**
Lead	**7439-92-1**	**1.50**		**0.115**
Manganese	**7439-96-5**	**6.36**		**0.476**
Molybdenum	**7439-98-7**	**2.56**		**0.337**
Nickel	**7440-02-0**	**1.14**	QM-07	**0.632**
Selenium	**7782-49-2**	**0.382**		**0.00864**
Thallium	**7440-28-0**	**0.00314**		**7.36E-4**
Vanadium	**7440-62-2**	**0.879**		**0.0392**
Zinc	7440-66-6	19.6	U	97.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011725-HM
Matrix: Air
Lab ID: 5012731-07
Sample Volume: 2069.013 m³
Filter ID:
Sampled: 01/17/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 02:05

Comments: Q8522452 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.356**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.281**		**0.00699**
Barium	**7440-39-3**	**5.76**		**1.21**
Beryllium	**7440-41-7**	**0.00659**		**0.00149**
Cadmium	**7440-43-9**	**0.109**		**0.00403**
Chromium	7440-47-3	1.56	U	1.92
Cobalt	**7440-48-4**	**0.226**		**0.0409**
Copper	**7440-50-8**	**35.2**		**0.591**
Lead	**7439-92-1**	**1.70**		**0.105**
Manganese	**7439-96-5**	**7.03**		**0.438**
Molybdenum	**7439-98-7**	**2.01**		**0.310**
Nickel	**7440-02-0**	**1.15**		**0.581**
Selenium	**7782-49-2**	**0.396**		**0.00794**
Thallium	**7440-28-0**	**0.00315**		**6.77E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0360**
Zinc	7440-66-6	18.8	U	89.6

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FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011725-HM
Matrix: Air
Lab ID: 5012731-08
Sample Volume: 2056.619 m³
Filter ID:
Sampled: 01/17/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 02:20

Comments: Q8522450 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.189**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.147**		**0.00703**
Barium	**7440-39-3**	**2.63**		**1.22**
Beryllium	**7440-41-7**	**0.00919**		**0.00150**
Cadmium	**7440-43-9**	**0.0817**		**0.00405**
Chromium	7440-47-3	1.68	U	1.93
Cobalt	**7440-48-4**	**0.233**		**0.0411**
Copper	**7440-50-8**	**31.8**		**0.595**
Lead	**7439-92-1**	**1.19**		**0.106**
Manganese	**7439-96-5**	**5.28**		**0.441**
Molybdenum	**7439-98-7**	**1.65**		**0.312**
Nickel	**7440-02-0**	**1.41**		**0.585**
Selenium	**7782-49-2**	**0.375**		**0.00799**
Thallium	**7440-28-0**	**0.00291**		**6.81E-4**
Vanadium	**7440-62-2**	**0.933**		**0.0362**
Zinc	7440-66-6	12.6	U	90.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011725-HM
Matrix: Air
Lab ID: 5012731-09
Sample Volume: 1829.038 m³
Filter ID:
Sampled: 01/17/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 02:36

Comments: Q8522448 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.213**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.387**		**0.00791**
Barium	**7440-39-3**	**2.69**		**1.37**
Beryllium	**7440-41-7**	**0.00443**		**0.00169**
Cadmium	**7440-43-9**	**0.0773**		**0.00455**
Chromium	7440-47-3	1.39	U	2.17
Cobalt	**7440-48-4**	**0.169**		**0.0463**
Copper	**7440-50-8**	**39.1**		**0.669**
Lead	**7439-92-1**	**1.29**		**0.119**
Manganese	**7439-96-5**	**4.97**		**0.495**
Molybdenum	**7439-98-7**	**2.20**		**0.350**
Nickel	**7440-02-0**	**1.12**		**0.657**
Selenium	**7782-49-2**	**0.335**		**0.00898**
Thallium	**7440-28-0**	**0.00266**		**7.66E-4**
Vanadium	**7440-62-2**	**0.772**		**0.0407**
Zinc	7440-66-6	14.6	U	101

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011825-HM
Matrix: Air
Lab ID: 5012731-10
Sample Volume: 1893.03 m³
Filter ID:
Sampled: 01/18/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 02:51

Comments: Q8522446 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.302**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.281**		**0.00764**
Barium	**7440-39-3**	**4.55**		**1.32**
Beryllium	**7440-41-7**	**0.0103**		**0.00163**
Cadmium	**7440-43-9**	**0.0445**		**0.00440**
Chromium	7440-47-3	2.09	U	2.10
Cobalt	**7440-48-4**	**0.332**		**0.0447**
Copper	**7440-50-8**	**75.4**		**0.646**
Lead	**7439-92-1**	**1.08**		**0.115**
Manganese	**7439-96-5**	**10.3**		**0.479**
Molybdenum	**7439-98-7**	**2.85**		**0.339**
Nickel	**7440-02-0**	**1.73**		**0.635**
Selenium	**7782-49-2**	**0.207**		**0.00868**
Thallium	**7440-28-0**	**0.00205**		**7.40E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0394**
Zinc	7440-66-6	14.3	U	98.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011825-HM
Matrix: Air
Lab ID: 5012731-11
Sample Volume: 2058.592 m³
Filter ID:
Sampled: 01/18/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 03:07

Comments: Q8522442 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.168**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.283**		**0.00703**
Barium	**7440-39-3**	**4.01**		**1.22**
Beryllium	**7440-41-7**	**0.00721**		**0.00150**
Cadmium	**7440-43-9**	**0.0387**		**0.00405**
Chromium	7440-47-3	1.53	U	1.93
Cobalt	**7440-48-4**	**0.223**		**0.0411**
Copper	**7440-50-8**	**40.1**		**0.594**
Lead	**7439-92-1**	**1.09**		**0.106**
Manganese	**7439-96-5**	**6.66**		**0.440**
Molybdenum	**7439-98-7**	**2.36**		**0.311**
Nickel	**7440-02-0**	**1.47**		**0.584**
Selenium	**7782-49-2**	**0.226**		**0.00798**
Thallium	**7440-28-0**	**0.00180**		**6.80E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0362**
Zinc	7440-66-6	54.2	U	90.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-011825-HM
Matrix: Air
Lab ID: 5012731-12
Sample Volume: 2064.303 m³
Filter ID:
Sampled: 01/18/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/28/25 18:19

Comments: Q8522441 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.139**		**0.00701**
Barium	**7440-39-3**	**1.57**		**1.21**
Beryllium	**7440-41-7**	**0.00356**		**0.00150**
Cadmium	**7440-43-9**	**0.0383**		**0.00404**
Chromium	7440-47-3	1.04	U	1.92
Cobalt	**7440-48-4**	**0.0902**		**0.0410**
Copper	**7440-50-8**	**30.5**		**0.593**
Lead	**7439-92-1**	**0.670**		**0.106**
Manganese	**7439-96-5**	**2.23**		**0.439**
Molybdenum	**7439-98-7**	**1.63**		**0.311**
Nickel	**7440-02-0**	**0.991**		**0.582**
Selenium	**7782-49-2**	**0.159**		**0.00796**
Thallium	**7440-28-0**	**0.00174**		**6.79E-4**
Vanadium	**7440-62-2**	**0.540**		**0.0361**
Zinc	7440-66-6	9.64	U	89.9

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011825-HM
Matrix: Air
Lab ID: 5012731-13
Sample Volume: 1913.332 m³
Filter ID:
Sampled: 01/18/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 04:15

Comments: Q8522440 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.205**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.314**		**0.00756**
Barium	**7440-39-3**	**2.80**		**1.31**
Beryllium	**7440-41-7**	**0.00455**		**0.00162**
Cadmium	**7440-43-9**	**0.0414**		**0.00435**
Chromium	7440-47-3	1.24	U	2.07
Cobalt	**7440-48-4**	**0.132**		**0.0442**
Copper	**7440-50-8**	**32.0**		**0.639**
Lead	**7439-92-1**	**0.806**		**0.114**
Manganese	**7439-96-5**	**3.88**		**0.474**
Molybdenum	**7439-98-7**	**1.99**		**0.335**
Nickel	**7440-02-0**	**1.07**		**0.628**
Selenium	**7782-49-2**	**0.189**		**0.00859**
Thallium	**7440-28-0**	**0.00154**		**7.32E-4**
Vanadium	**7440-62-2**	**0.641**		**0.0389**
Zinc	7440-66-6	13.4	U	96.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-011825-HM
Matrix: Air
Lab ID: 5012731-14
Sample Volume: 1893.03 m³
Filter ID:
Sampled: 01/18/25 00:00
Received: 01/27/25 10:52
Analysis Date: 01/29/25 04:29

Comments: Q8522438 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0224	SL, U	0.0301
Arsenic	7440-38-2	0.00516	U	0.00764
Barium	7440-39-3	0.857	U	1.32
Beryllium	7440-41-7	3.21E-4	U	0.00163
Cadmium	7440-43-9	0.00154	U	0.00440
Chromium	7440-47-3	0.895	U	2.10
Cobalt	7440-48-4	0.0137	U	0.0447
Copper	7440-50-8	0.491	U	0.646
Lead	7439-92-1	0.0241	U	0.115
Manganese	7439-96-5	0.221	U	0.479
Molybdenum	7439-98-7	0.153	U	0.339
Nickel	7440-02-0	0.483	U	0.635
Selenium	7782-49-2	0.00185	U	0.00868
Thallium	7440-28-0	1.27E-4	U	7.40E-4
Vanadium	7440-62-2	0.0113	U	0.0394
Zinc	7440-66-6	4.36	U	98.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-011925-HM
Matrix: Air
Lab ID: 5012731-15
Sample Volume: 1882.379 m³
Filter ID:
Sampled: 01/19/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 04:43

Comments: Q8522439 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.371**		**0.00768**
Barium	**7440-39-3**	**3.99**		**1.33**
Beryllium	**7440-41-7**	**0.00871**		**0.00164**
Cadmium	**7440-43-9**	**0.0342**		**0.00443**
Chromium	**7440-47-3**	**2.34**		**2.11**
Cobalt	**7440-48-4**	**0.303**		**0.0449**
Copper	**7440-50-8**	**84.1**		**0.650**
Lead	**7439-92-1**	**0.684**		**0.116**
Manganese	**7439-96-5**	**9.95**		**0.481**
Molybdenum	**7439-98-7**	**2.98**		**0.341**
Nickel	**7440-02-0**	**1.20**		**0.639**
Selenium	**7782-49-2**	**0.183**		**0.00873**
Thallium	**7440-28-0**	**0.00269**		**7.44E-4**
Vanadium	**7440-62-2**	**0.980**		**0.0396**
Zinc	7440-66-6	13.5	U	98.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-011925-HM
Matrix: Air
Lab ID: 5012731-16
Sample Volume: 2069.882 m³
Filter ID:
Sampled: 01/19/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 04:57

Comments: Q8522437 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.260**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.515**		**0.00699**
Barium	**7440-39-3**	**6.97**		**1.21**
Beryllium	**7440-41-7**	**0.0159**		**0.00149**
Cadmium	**7440-43-9**	**0.0503**		**0.00402**
Chromium	**7440-47-3**	**2.40**		**1.92**
Cobalt	**7440-48-4**	**0.462**		**0.0409**
Copper	**7440-50-8**	**47.5**		**0.591**
Lead	**7439-92-1**	**1.51**		**0.105**
Manganese	**7439-96-5**	**15.2**		**0.438**
Molybdenum	**7439-98-7**	**2.28**		**0.310**
Nickel	**7440-02-0**	**1.59**		**0.581**
Selenium	**7782-49-2**	**0.211**		**0.00794**
Thallium	**7440-28-0**	**0.00275**		**6.77E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0360**
Zinc	7440-66-6	23.3	U	89.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-011925-HM
Matrix: Air
Lab ID: 5012731-17
Sample Volume: 1851.606 m³
Filter ID:
Sampled: 01/19/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 05:12

Comments: Q8522434 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.332**		**0.00781**
Barium	**7440-39-3**	**2.65**		**1.35**
Beryllium	**7440-41-7**	**0.00324**		**0.00167**
Cadmium	**7440-43-9**	**0.0327**		**0.00450**
Chromium	7440-47-3	1.38	U	2.14
Cobalt	**7440-48-4**	**0.117**		**0.0457**
Copper	**7440-50-8**	**27.9**		**0.661**
Lead	**7439-92-1**	**0.494**		**0.118**
Manganese	**7439-96-5**	**3.27**		**0.489**
Molybdenum	**7439-98-7**	**1.53**		**0.346**
Nickel	**7440-02-0**	**0.742**		**0.649**
Selenium	**7782-49-2**	**0.169**		**0.00887**
Thallium	**7440-28-0**	**0.00228**		**7.57E-4**
Vanadium	**7440-62-2**	**0.337**		**0.0402**
Zinc	7440-66-6	11.1	U	100

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-011925-HM
Matrix: Air
Lab ID: 5012731-18
Sample Volume: 1924.909 m³
Filter ID:
Sampled: 01/19/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 05:26

Comments: Q8522435 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.343**		**0.00751**
Barium	**7440-39-3**	**2.28**		**1.30**
Beryllium	**7440-41-7**	**0.00302**		**0.00161**
Cadmium	**7440-43-9**	**0.0191**		**0.00433**
Chromium	7440-47-3	1.24	U	2.06
Cobalt	**7440-48-4**	**0.112**		**0.0440**
Copper	**7440-50-8**	**34.8**		**0.636**
Lead	**7439-92-1**	**0.472**		**0.113**
Manganese	**7439-96-5**	**3.43**		**0.471**
Molybdenum	**7439-98-7**	**2.23**		**0.333**
Nickel	**7440-02-0**	**0.707**		**0.625**
Selenium	**7782-49-2**	**0.148**		**0.00854**
Thallium	**7440-28-0**	**0.00216**		**7.28E-4**
Vanadium	**7440-62-2**	**0.320**		**0.0387**
Zinc	7440-66-6	7.50	U	96.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012025-HM
Matrix: Air
Lab ID: 5012731-19
Sample Volume: 1878.444 m³
Filter ID:
Sampled: 01/20/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 05:40

Comments: Q8522433 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.165**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.431**		**0.00770**
Barium	**7440-39-3**	**4.79**		**1.33**
Beryllium	**7440-41-7**	**0.00954**		**0.00165**
Cadmium	**7440-43-9**	**0.0696**		**0.00443**
Chromium	**7440-47-3**	**3.56**		**2.11**
Cobalt	**7440-48-4**	**0.351**		**0.0450**
Copper	**7440-50-8**	**77.9**		**0.651**
Lead	**7439-92-1**	**0.825**		**0.116**
Manganese	**7439-96-5**	**11.2**		**0.482**
Molybdenum	**7439-98-7**	**2.90**		**0.341**
Nickel	**7440-02-0**	**1.47**		**0.640**
Selenium	**7782-49-2**	**0.201**		**0.00875**
Thallium	**7440-28-0**	**0.00298**		**7.46E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0397**
Zinc	7440-66-6	17.0	U	98.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012025-HM
Matrix: Air
Lab ID: 5012731-20
Sample Volume: 2074.229 m³
Filter ID:
Sampled: 01/20/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 05:53

Comments: Q8522432 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.214**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.521**		**0.00697**
Barium	**7440-39-3**	**7.97**		**1.21**
Beryllium	**7440-41-7**	**0.0157**		**0.00149**
Cadmium	**7440-43-9**	**0.296**		**0.00402**
Chromium	**7440-47-3**	**2.69**		**1.91**
Cobalt	**7440-48-4**	**0.514**		**0.0408**
Copper	**7440-50-8**	**54.1**		**0.590**
Lead	**7439-92-1**	**1.98**		**0.105**
Manganese	**7439-96-5**	**16.0**		**0.437**
Molybdenum	**7439-98-7**	**2.43**		**0.309**
Nickel	**7440-02-0**	**1.83**		**0.580**
Selenium	**7782-49-2**	**0.232**		**0.00792**
Thallium	**7440-28-0**	**0.00314**		**6.75E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0359**
Zinc	7440-66-6	26.2	U	89.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012025-HM
Matrix: Air
Lab ID: 5012731-21
Sample Volume: 1995.719 m³
Filter ID:
Sampled: 01/20/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 06:23

Comments: Q8522430 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.404**		**0.00725**
Barium	**7440-39-3**	**3.53**		**1.26**
Beryllium	**7440-41-7**	**0.00749**		**0.00155**
Cadmium	**7440-43-9**	**0.0238**		**0.00417**
Chromium	7440-47-3	1.88	U	1.99
Cobalt	**7440-48-4**	**0.251**		**0.0424**
Copper	**7440-50-8**	**30.2**		**0.613**
Lead	**7439-92-1**	**0.835**		**0.109**
Manganese	**7439-96-5**	**7.03**		**0.454**
Molybdenum	**7439-98-7**	**1.58**		**0.321**
Nickel	**7440-02-0**	**1.04**		**0.602**
Selenium	**7782-49-2**	**0.194**		**0.00823**
Thallium	**7440-28-0**	**0.00262**		**7.02E-4**
Vanadium	**7440-62-2**	**0.713**		**0.0373**
Zinc	7440-66-6	13.9	U	92.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012025-HM
Matrix: Air
Lab ID: 5012731-22
Sample Volume: 1971.988 m³
Filter ID:
Sampled: 01/20/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 07:30

Comments: Q8522429 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.422**		**0.00733**
Barium	**7440-39-3**	**2.76**	LJ, QX	**1.27**
Beryllium	**7440-41-7**	**0.00516**		**0.00157**
Cadmium	**7440-43-9**	**0.0219**		**0.00422**
Chromium	7440-47-3	1.52	U	2.01
Cobalt	**7440-48-4**	**0.175**		**0.0429**
Copper	**7440-50-8**	**38.8**		**0.620**
Lead	**7439-92-1**	**0.610**		**0.111**
Manganese	**7439-96-5**	**5.41**		**0.460**
Molybdenum	**7439-98-7**	**2.16**	LJ, QX	**0.325**
Nickel	**7440-02-0**	**1.02**		**0.610**
Selenium	**7782-49-2**	**0.158**		**0.00833**
Thallium	**7440-28-0**	**0.00251**		**7.10E-4**
Vanadium	**7440-62-2**	**0.551**		**0.0378**
Zinc	7440-66-6	10.1	U	94.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012025-HM
Matrix: Air
Lab ID: 5012731-23
Sample Volume: 1878.444 m³
Filter ID:
Sampled: 01/20/25 00:00
Received: 01/27/25 10:52
Analysis Date: 01/29/25 07:44

Comments: Q8522426 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0242	SL, U	0.0303
Arsenic	**7440-38-2**	**0.0116**	FB-01	**0.00770**
Barium	7440-39-3	1.24	LJ, QX, U	1.33
Beryllium	7440-41-7	2.32E-4	U	0.00165
Cadmium	7440-43-9	0.00425	U	0.00443
Chromium	7440-47-3	1.10	U	2.11
Cobalt	7440-48-4	0.0218	U	0.0450
Copper	7440-50-8	0.505	U	0.651
Lead	7439-92-1	0.0537	U	0.116
Manganese	7439-96-5	0.256	U	0.482
Molybdenum	7439-98-7	0.155	LJ, QX, U	0.341
Nickel	7440-02-0	0.536	U	0.640
Selenium	7782-49-2	9.77E-4	U	0.00875
Thallium	7440-28-0	2.83E-4	U	7.46E-4
Vanadium	7440-62-2	0.0132	U	0.0397
Zinc	7440-66-6	11.4	U	98.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012125-HM
Matrix: Air
Lab ID: 5012731-24
Sample Volume: 1857.511 m³
Filter ID:
Sampled: 01/21/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 07:57

Comments: Q8522428 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.191**		**0.00779**
Barium	**7440-39-3**	**3.81**	LJ, QX	**1.35**
Beryllium	**7440-41-7**	**0.00752**		**0.00166**
Cadmium	**7440-43-9**	**0.0128**		**0.00448**
Chromium	7440-47-3	1.89	U	2.14
Cobalt	**7440-48-4**	**0.273**		**0.0455**
Copper	**7440-50-8**	**82.5**		**0.659**
Lead	**7439-92-1**	**0.396**		**0.117**
Manganese	**7439-96-5**	**8.57**		**0.488**
Molybdenum	**7439-98-7**	**2.83**	LJ, QX	**0.345**
Nickel	**7440-02-0**	**1.11**		**0.647**
Selenium	**7782-49-2**	**0.166**		**0.00885**
Thallium	**7440-28-0**	**0.00112**		**7.54E-4**
Vanadium	**7440-62-2**	**0.891**		**0.0401**
Zinc	7440-66-6	12.8	U	99.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012125-HM
Matrix: Air
Lab ID: 5012731-25
Sample Volume: 2079.445 m³
Filter ID:
Sampled: 01/21/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 08:10

Comments: Q8526000 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.251**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.285**		**0.00696**
Barium	**7440-39-3**	**9.00**	LJ, QX	**1.20**
Beryllium	**7440-41-7**	**0.0163**		**0.00149**
Cadmium	**7440-43-9**	**0.0156**		**0.00401**
Chromium	**7440-47-3**	**2.80**		**1.91**
Cobalt	**7440-48-4**	**0.547**		**0.0407**
Copper	**7440-50-8**	**50.0**		**0.588**
Lead	**7439-92-1**	**1.17**		**0.105**
Manganese	**7439-96-5**	**15.7**		**0.436**
Molybdenum	**7439-98-7**	**2.28**	LJ, QX	**0.308**
Nickel	**7440-02-0**	**1.74**		**0.578**
Selenium	**7782-49-2**	**0.217**		**0.00790**
Thallium	**7440-28-0**	**0.00131**		**6.74E-4**
Vanadium	**7440-62-2**	**1.72**		**0.0358**
Zinc	7440-66-6	20.8	U	89.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012125-HM
Matrix: Air
Lab ID: 5012731-26
Sample Volume: 2016.324 m³
Filter ID:
Sampled: 01/21/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 08:25

Comments: Q8525999 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0939**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.181**		**0.00717**
Barium	**7440-39-3**	**3.80**	LJ, QX	**1.24**
Beryllium	**7440-41-7**	**0.00589**		**0.00153**
Cadmium	**7440-43-9**	**0.00935**		**0.00413**
Chromium	7440-47-3	1.80	U	1.97
Cobalt	**7440-48-4**	**0.204**		**0.0420**
Copper	**7440-50-8**	**24.4**		**0.607**
Lead	**7439-92-1**	**0.456**		**0.108**
Manganese	**7439-96-5**	**5.97**		**0.449**
Molybdenum	**7439-98-7**	**1.57**	LJ, QX	**0.318**
Nickel	**7440-02-0**	**0.925**		**0.596**
Selenium	**7782-49-2**	**0.159**		**0.00815**
Thallium	**7440-28-0**	**7.56E-4**		**6.95E-4**
Vanadium	**7440-62-2**	**0.592**		**0.0370**
Zinc	7440-66-6	12.4	U	92.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012125-HM
Matrix: Air
Lab ID: 5012731-27
Sample Volume: 1853.164 m³
Filter ID:
Sampled: 01/21/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 08:38

Comments: Q8525998 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0866**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.440**		**0.00781**
Barium	**7440-39-3**	**3.29**	LJ, QX	**1.35**
Beryllium	**7440-41-7**	**0.00669**		**0.00167**
Cadmium	**7440-43-9**	**0.00896**		**0.00450**
Chromium	7440-47-3	1.84	U	2.14
Cobalt	**7440-48-4**	**0.312**		**0.0457**
Copper	**7440-50-8**	**42.4**		**0.660**
Lead	**7439-92-1**	**0.332**		**0.118**
Manganese	**7439-96-5**	**8.36**		**0.489**
Molybdenum	**7439-98-7**	**2.25**	LJ, QX	**0.346**
Nickel	**7440-02-0**	**1.01**		**0.649**
Selenium	**7782-49-2**	**0.160**		**0.00887**
Thallium	**7440-28-0**	**8.92E-4**		**7.56E-4**
Vanadium	**7440-62-2**	**0.746**		**0.0402**
Zinc	7440-66-6	8.89	U	100

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-012125-HM
Matrix: Air
Lab ID: 5012731-28
Sample Volume: 1857.511 m³
Filter ID:
Sampled: 01/21/25 00:00
Received: 01/27/25 10:52
Analysis Date: 01/29/25 08:52

Comments: Q8525996 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0217	SL, U	0.0307
Arsenic	7440-38-2	0.00778	U	0.00779
Barium	7440-39-3	1.15	LJ, QX, U	1.35
Beryllium	7440-41-7	1.52E-4	U	0.00166
Cadmium	7440-43-9	7.57E-4	U	0.00448
Chromium	7440-47-3	1.01	U	2.14
Cobalt	7440-48-4	0.0139	U	0.0455
Copper	**7440-50-8**	**0.739**		**0.659**
Lead	7439-92-1	0.0320	U	0.117
Manganese	7439-96-5	0.211	U	0.488
Molybdenum	7439-98-7	0.198	LJ, QX, U	0.345
Nickel	7440-02-0	0.504	U	0.647
Selenium	7782-49-2	ND	U	0.00885
Thallium	7440-28-0	6.53E-5	U	7.54E-4
Vanadium	7440-62-2	0.0148	U	0.0401
Zinc	7440-66-6	6.72	U	99.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012225-HM
Matrix: Air
Lab ID: 5012731-29
Sample Volume: 2042.239 m³
Filter ID:
Sampled: 01/22/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 09:05

Comments: Q8525997 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.151**		**0.00708**
Barium	**7440-39-3**	**4.11**	LJ, QX	**1.23**
Beryllium	**7440-41-7**	**0.00584**		**0.00151**
Cadmium	**7440-43-9**	**0.00764**		**0.00408**
Chromium	**7440-47-3**	**2.23**		**1.94**
Cobalt	**7440-48-4**	**0.250**		**0.0414**
Copper	**7440-50-8**	**58.9**		**0.599**
Lead	**7439-92-1**	**0.381**		**0.107**
Manganese	**7439-96-5**	**7.46**		**0.444**
Molybdenum	**7439-98-7**	**2.46**	LJ, QX	**0.314**
Nickel	**7440-02-0**	**1.48**		**0.589**
Selenium	**7782-49-2**	**0.179**		**0.00805**
Thallium	7440-28-0	6.40E-4	U	6.86E-4
Vanadium	**7440-62-2**	**0.957**		**0.0365**
Zinc	7440-66-6	9.54	U	90.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012225-HM
Matrix: Air
Lab ID: 5012731-30
Sample Volume: 2058.592 m³
Filter ID:
Sampled: 01/22/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 09:18

Comments: Q8525995 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.198**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.219**		**0.00703**
Barium	**7440-39-3**	**6.07**	LJ, QX	**1.22**
Beryllium	**7440-41-7**	**0.0113**		**0.00150**
Cadmium	**7440-43-9**	**0.0113**		**0.00405**
Chromium	**7440-47-3**	**2.09**		**1.93**
Cobalt	**7440-48-4**	**0.394**		**0.0411**
Copper	**7440-50-8**	**54.2**		**0.594**
Lead	**7439-92-1**	**0.711**		**0.106**
Manganese	**7439-96-5**	**12.1**		**0.440**
Molybdenum	**7439-98-7**	**2.69**	LJ, QX	**0.311**
Nickel	**7440-02-0**	**1.52**		**0.584**
Selenium	**7782-49-2**	**0.217**		**0.00798**
Thallium	**7440-28-0**	**8.03E-4**		**6.80E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0362**
Zinc	7440-66-6	13.6	U	90.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012225-HM
Matrix: Air
Lab ID: 5012731-31
Sample Volume: 2020.548 m³
Filter ID:
Sampled: 01/22/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 10:44

Comments: Q8525994 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0843**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.196**		**0.00716**
Barium	**7440-39-3**	**3.62**	LJ, QX	**1.24**
Beryllium	**7440-41-7**	**0.00573**		**0.00153**
Cadmium	**7440-43-9**	**0.0166**		**0.00412**
Chromium	7440-47-3	1.71	U	1.96
Cobalt	**7440-48-4**	**0.200**		**0.0419**
Copper	**7440-50-8**	**28.0**		**0.606**
Lead	**7439-92-1**	**0.801**		**0.108**
Manganese	**7439-96-5**	**6.05**		**0.449**
Molybdenum	**7439-98-7**	**1.71**	LJ, QX	**0.317**
Nickel	**7440-02-0**	**0.990**		**0.595**
Selenium	**7782-49-2**	**0.183**		**0.00813**
Thallium	**7440-28-0**	**7.21E-4**		**6.93E-4**
Vanadium	**7440-62-2**	**0.807**		**0.0369**
Zinc	7440-66-6	8.55	U	91.8

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012225-HM
Matrix: Air
Lab ID: 5012731-32
Sample Volume: 1947.459 m³
Filter ID:
Sampled: 01/22/25 23:59
Received: 01/27/25 10:52
Analysis Date: 01/29/25 11:17

Comments: Q8525993 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.190**	SL	**0.0292**
Arsenic	**7440-38-2**	**2.58**		**0.00743**
Barium	**7440-39-3**	**6.15**	LJ, QX	**1.29**
Beryllium	**7440-41-7**	**0.0166**		**0.00159**
Cadmium	**7440-43-9**	**0.0191**		**0.00428**
Chromium	**7440-47-3**	**3.73**		**2.04**
Cobalt	**7440-48-4**	**0.605**		**0.0434**
Copper	**7440-50-8**	**41.6**		**0.628**
Lead	**7439-92-1**	**1.45**		**0.112**
Manganese	**7439-96-5**	**18.0**		**0.465**
Molybdenum	**7439-98-7**	**2.29**	LJ, QX	**0.329**
Nickel	**7440-02-0**	**1.78**		**0.617**
Selenium	**7782-49-2**	**0.220**		**0.00844**
Thallium	**7440-28-0**	**0.00473**		**7.19E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0383**
Zinc	7440-66-6	20.6	U	95.2

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012225-HM
Matrix: Air
Lab ID: 5012731-33
Sample Volume: 2042.239 m³
Filter ID:
Sampled: 01/22/25 00:00
Received: 01/27/25 10:52
Analysis Date: 01/29/25 11:35

Comments: Q8525987 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0195	SL, U	0.0279
Arsenic	7440-38-2	0.00625	U	0.00708
Barium	7440-39-3	1.14	LJ, QX, U	1.23
Beryllium	7440-41-7	1.25E-4	U	0.00151
Cadmium	7440-43-9	6.45E-4	U	0.00408
Chromium	7440-47-3	0.827	U	1.94
Cobalt	7440-48-4	0.0101	U	0.0414
Copper	7440-50-8	0.260	U	0.599
Lead	7439-92-1	0.0236	U	0.107
Manganese	7439-96-5	0.168	U	0.444
Molybdenum	7439-98-7	0.151	LJ, QX, U	0.314
Nickel	7440-02-0	0.397	U	0.589
Selenium	7782-49-2	0.00218	U	0.00805
Thallium	7440-28-0	9.88E-5	U	6.86E-4
Vanadium	7440-62-2	0.00258	U	0.0365
Zinc	7440-66-6	2.55	U	90.8

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Blank (2501071-CCB1)				Prepared & Analyzed: 01/28/25						
Antimony	0.420		ng/l							
Arsenic	3.18		ng/l							
Barium	0.878		ng/l							
Beryllium	-0.649		ng/l							U
Cadmium	0.0521		ng/l							
Chromium	2.77		ng/l							
Cobalt	0.272		ng/l							
Copper	19.0		ng/l							
Lead	3.24		ng/l							
Manganese	0.858		ng/l							
Molybdenum	18.8		ng/l							
Nickel	9.60		ng/l							
Selenium	-0.834		ng/l							U
Thallium	1.53		ng/l							
Vanadium	-46.0		ng/l							U
Zinc	-77.0		ng/l							U
Calibration Blank (2501071-CCB2)				Prepared & Analyzed: 01/28/25						
Antimony	0.449		ng/l							
Arsenic	5.13		ng/l							
Barium	1.57		ng/l							
Beryllium	-0.857		ng/l							U
Cadmium	0.178		ng/l							
Chromium	4.66		ng/l							
Cobalt	0.113		ng/l							
Copper	20.2		ng/l							
Lead	2.34		ng/l							
Manganese	1.59		ng/l							
Molybdenum	1.55		ng/l							
Nickel	13.0		ng/l							
Selenium	-6.60		ng/l							U
Thallium	0.994		ng/l							
Vanadium	-45.5		ng/l							U
Zinc	-104		ng/l							U
Calibration Blank (2501071-CCB3)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.234		ng/l							
Arsenic	9.87		ng/l							
Barium	0.917		ng/l							
Beryllium	-1.04		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Blank (2501071-CCB3) Contin				Prepared: 01/28/25 Analyzed: 01/29/25						
Cadmium	0.166		ng/l							
Chromium	4.21		ng/l							
Cobalt	0.222		ng/l							
Copper	22.7		ng/l							
Lead	2.49		ng/l							
Manganese	0.702		ng/l							
Molybdenum	-0.970		ng/l							U
Nickel	11.5		ng/l							
Selenium	1.96		ng/l							
Thallium	0.984		ng/l							
Vanadium	-58.8		ng/l							U
Zinc	-111		ng/l							U
Calibration Blank (2501071-CCB4)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.0570		ng/l							
Arsenic	8.28		ng/l							
Barium	0.750		ng/l							
Beryllium	-1.55		ng/l							U
Cadmium	0.257		ng/l							
Chromium	2.98		ng/l							
Cobalt	0.185		ng/l							
Copper	24.8		ng/l							
Lead	2.17		ng/l							
Manganese	0.975		ng/l							
Molybdenum	-0.531		ng/l							U
Nickel	15.1		ng/l							
Selenium	-7.94		ng/l							U
Thallium	0.895		ng/l							
Vanadium	-65.0		ng/l							U
Zinc	-94.9		ng/l							U
Calibration Blank (2501071-CCB5)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.356		ng/l							
Arsenic	4.68		ng/l							
Barium	1.21		ng/l							
Beryllium	-1.91		ng/l							U
Cadmium	0.116		ng/l							
Chromium	4.65		ng/l							
Cobalt	0.358		ng/l							
Copper	21.8		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Blank (2501071-CCB5) Contin				Prepared: 01/28/25 Analyzed: 01/29/25						
Lead	2.28		ng/l							
Manganese	-0.768		ng/l							U
Molybdenum	-1.27		ng/l							U
Nickel	14.8		ng/l							
Selenium	0.915		ng/l							
Thallium	0.914		ng/l							
Vanadium	-75.0		ng/l							U
Zinc	-101		ng/l							U
Calibration Blank (2501071-CCB6)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.484		ng/l							
Arsenic	9.87		ng/l							
Barium	4.70		ng/l							
Beryllium	-1.47		ng/l							U
Cadmium	0.191		ng/l							
Chromium	3.81		ng/l							
Cobalt	0.377		ng/l							
Copper	29.8		ng/l							
Lead	3.02		ng/l							
Manganese	1.78		ng/l							
Molybdenum	1.92		ng/l							
Nickel	15.2		ng/l							
Selenium	-1.97		ng/l							U
Thallium	1.21		ng/l							
Vanadium	-84.2		ng/l							U
Zinc	-105		ng/l							U
Calibration Blank (2501071-CCB7)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.465		ng/l							
Arsenic	0.0295		ng/l							
Barium	2.49		ng/l							
Beryllium	-1.60		ng/l							U
Cadmium	0.194		ng/l							
Chromium	4.22		ng/l							
Cobalt	0.451		ng/l							
Copper	28.5		ng/l							
Lead	3.54		ng/l							
Manganese	1.64		ng/l							
Molybdenum	1.74		ng/l							
Nickel	13.4		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Blank (2501071-CCB7) Contin				Prepared: 01/28/25 Analyzed: 01/29/25						
Selenium	-2.49		ng/l							U
Thallium	1.52		ng/l							
Vanadium	-88.4		ng/l							U
Zinc	-83.6		ng/l							U
Calibration Check (2501071-CCV1)				Prepared & Analyzed: 01/28/25						
Antimony	20100		ng/l	20008		101	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	200000		ng/l	200200		100	90-110			
Beryllium	4810		ng/l	5002.5		96.2	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	246000		ng/l	240050		103	90-110			
Cobalt	51200		ng/l	50020		102	90-110			
Copper	2.06E6		ng/l	2.0020E6		103	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	504000		ng/l	498900		101	90-110			
Molybdenum	50500		ng/l	50005		101	90-110			
Nickel	123000		ng/l	120040		103	90-110			
Selenium	19600		ng/l	20002		98.2	90-110			
Thallium	489		ng/l	499.95		97.9	90-110			
Vanadium	19600		ng/l	20030		97.8	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2501071-CCV2)				Prepared & Analyzed: 01/28/25						
Antimony	20300		ng/l	20008		101	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	201000		ng/l	200200		100	90-110			
Beryllium	4790		ng/l	5002.5		95.8	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	50400		ng/l	50020		101	90-110			
Copper	2.05E6		ng/l	2.0020E6		103	90-110			
Lead	201000		ng/l	200060		100	90-110			
Manganese	505000		ng/l	498900		101	90-110			
Molybdenum	50800		ng/l	50005		102	90-110			
Nickel	121000		ng/l	120040		101	90-110			
Selenium	20000		ng/l	20002		99.8	90-110			
Thallium	486		ng/l	499.95		97.2	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	507000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Check (2501071-CCV3)				Prepared & Analyzed: 01/28/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20600		ng/l	20004		103	90-110			
Barium	205000		ng/l	200200		102	90-110			
Beryllium	4790		ng/l	5002.5		95.7	90-110			
Cadmium	20900		ng/l	20014		105	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	51300		ng/l	50020		103	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	515000		ng/l	498900		103	90-110			
Molybdenum	52200		ng/l	50005		104	90-110			
Nickel	124000		ng/l	120040		103	90-110			
Selenium	20100		ng/l	20002		101	90-110			
Thallium	492		ng/l	499.95		98.3	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2501071-CCV4)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	206000		ng/l	200200		103	90-110			
Beryllium	4960		ng/l	5002.5		99.2	90-110			
Cadmium	21000		ng/l	20014		105	90-110			
Chromium	253000		ng/l	240050		106	90-110			
Cobalt	51700		ng/l	50020		103	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	52700		ng/l	50005		105	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	489		ng/l	499.95		97.8	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2501071-CCV5)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	21300		ng/l	20008		106	90-110			
Arsenic	21100		ng/l	20004		106	90-110			
Barium	213000		ng/l	200200		106	90-110			
Beryllium	4860		ng/l	5002.5		97.1	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Check (2501071-CCV5) Contin				Prepared: 01/28/25 Analyzed: 01/29/25						
Cadmium	21600		ng/l	20014		108	90-110			
Chromium	260000		ng/l	240050		108	90-110			
Cobalt	53000		ng/l	50020		106	90-110			
Copper	2.19E6		ng/l	2.0020E6		109	90-110			
Lead	208000		ng/l	200060		104	90-110			
Manganese	535000		ng/l	498900		107	90-110			
Molybdenum	53800		ng/l	50005		108	90-110			
Nickel	128000		ng/l	120040		107	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	497		ng/l	499.95		99.4	90-110			
Vanadium	21000		ng/l	20030		105	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2501071-CCV6)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	21000		ng/l	20008		105	90-110			
Arsenic	21000		ng/l	20004		105	90-110			
Barium	234000		ng/l	200200		117	90-110			LJ, QX
Beryllium	5030		ng/l	5002.5		101	90-110			
Cadmium	21300		ng/l	20014		107	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	53200		ng/l	50020		106	90-110			
Copper	2.21E6		ng/l	2.0020E6		110	90-110			
Lead	207000		ng/l	200060		104	90-110			
Manganese	533000		ng/l	498900		107	90-110			
Molybdenum	55300		ng/l	50005		111	90-110			LJ, QX
Nickel	128000		ng/l	120040		107	90-110			
Selenium	20400		ng/l	20002		102	90-110			
Thallium	484		ng/l	499.95		96.8	90-110			
Vanadium	20800		ng/l	20030		104	90-110			
Zinc	530000		ng/l	500000		106	90-110			
Calibration Check (2501071-CCV7)				Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	20600		ng/l	20008		103	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	241000		ng/l	200200		120	90-110			LJ, QX
Beryllium	5200		ng/l	5002.5		104	90-110			
Cadmium	21000		ng/l	20014		105	90-110			
Chromium	258000		ng/l	240050		107	90-110			
Cobalt	52600		ng/l	50020		105	90-110			
Copper	2.20E6		ng/l	2.0020E6		110	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Calibration Check (2501071-CCV7) Contin				Prepared: 01/28/25 Analyzed: 01/29/25						
Lead	206000		ng/l	200060		103	90-110			
Manganese	523000		ng/l	498900		105	90-110			
Molybdenum	55700		ng/l	50005		111	90-110			LJ, QX
Nickel	127000		ng/l	120040		106	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	486		ng/l	499.95		97.2	90-110			
Vanadium	20800		ng/l	20030		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2501071-HCV1)				Prepared & Analyzed: 01/28/25						
Antimony	41000		ng/l	40016		102	95-105			
Arsenic	40800		ng/l	40008		102	95-105			
Barium	405000		ng/l	400400		101	95-105			
Beryllium	9690		ng/l	10005		96.8	95-105			
Cadmium	40700		ng/l	40028		102	95-105			
Chromium	483000		ng/l	480100		101	95-105			
Cobalt	101000		ng/l	100040		101	95-105			
Copper	4.04E6		ng/l	4.0040E6		101	95-105			
Lead	407000		ng/l	400120		102	95-105			
Manganese	1.01E6		ng/l	997800		102	95-105			
Molybdenum	102000		ng/l	100010		102	95-105			
Nickel	242000		ng/l	240070		101	95-105			
Selenium	40200		ng/l	40004		100	95-105			
Thallium	1010		ng/l	999.90		101	95-105			
Vanadium	40500		ng/l	40060		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2501071-ICB1)				Prepared & Analyzed: 01/28/25						
Antimony	2.85		ng/l							
Arsenic	-2.32		ng/l							U
Barium	2.77		ng/l							
Beryllium	-0.194		ng/l							U
Cadmium	0.335		ng/l							
Chromium	6.20		ng/l							
Cobalt	0.836		ng/l							
Copper	102		ng/l							
Lead	17.2		ng/l							
Manganese	11.1		ng/l							
Molybdenum	21.2		ng/l							
Nickel	9.07		ng/l							

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CERTIFICATE OF ANALYSIS

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Initial Cal Blank (2501071-ICB1) Continu					Prepared & Analyzed: 01/28/25					
Selenium	1.51		ng/l							
Thallium	1.77		ng/l							
Vanadium	-63.5		ng/l							U
Zinc	-79.2		ng/l							U
Initial Cal Check (2501071-ICV1)					Prepared & Analyzed: 01/28/25					
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4920		ng/l	5000.0		98.3	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	519		ng/l	500.00		104	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2501071-IFA1)					Prepared & Analyzed: 01/28/25					
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	309000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			BR, U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2501071 - B5A2804										
Interference Check B (2501071-IFB1)					Prepared & Analyzed: 01/28/25					
Antimony	20500		ng/l	20008		102	80-120			
Arsenic	20700		ng/l	20004		104	80-120			
Barium	201000		ng/l	200200		100	80-120			
Beryllium	4690		ng/l	5002.5		93.7	80-120			
Cadmium	20000		ng/l	20014		100	80-120			
Chromium	241000		ng/l	240050		101	80-120			
Cobalt	50200		ng/l	50020		100	80-120			
Copper	1.92E6		ng/l	2.0020E6		96.1	80-120			
Lead	207000		ng/l	200060		103	80-120			
Manganese	508000		ng/l	498900		102	80-120			
Molybdenum	363000		ng/l	350000		104	80-120			
Nickel	118000		ng/l	120040		98.4	80-120			
Selenium	19600		ng/l	20002		97.8	80-120			
Thallium	521		ng/l	499.95		104	80-120			
Vanadium	19100		ng/l	20030		95.2	80-120			
Zinc	471000		ng/l	500000		94.3	80-120			
Batch B5A2804 - ICP-MS Extraction										
Blank (B5A2804-BLK1)					Prepared & Analyzed: 01/28/25					
Antimony	ND	0.0350	ng/m³ Air							U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U
Zinc	ND	114	ng/m³ Air							U
LCS (B5A2804-BS1)					Prepared & Analyzed: 01/28/25					
Antimony	0.856	0.0350	ng/m³ Air	1.3835		61.9	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		99.2	80-120			
Barium	28.8	1.54	ng/m³ Air	27.686		104	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
LCS (B5A2804-BS1) Continued				Prepared & Analyzed: 01/28/25						
Beryllium	1.28	0.00190	ng/m³ Air	1.3836		92.5	80-120			
Cadmium	1.39	0.00512	ng/m³ Air	1.3839		100	80-120			
Chromium	15.4	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.39	0.0520	ng/m³ Air	1.3835		100	80-120			
Copper	29.2	0.752	ng/m³ Air	27.686		106	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.5	80-120			
Manganese	8.53	0.557	ng/m³ Air	8.2792		103	80-120			
Molybdenum	1.56	0.394	ng/m³ Air	1.3831		112	80-120			
Nickel	3.46	0.739	ng/m³ Air	2.7667		125	80-120			
Selenium	2.71	0.0101	ng/m³ Air	2.7661		98.1	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		98.7	80-120			
Vanadium	2.74	0.0458	ng/m³ Air	2.7700		99.1	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2804-BS2)				Prepared & Analyzed: 01/28/25						
Antimony	0.871	0.0350	ng/m³ Air	1.3835		62.9	80-120			SL
Arsenic	2.67	0.00889	ng/m³ Air	2.7664		96.6	80-120			
Barium	28.7	1.54	ng/m³ Air	27.686		103	80-120			
Beryllium	1.26	0.00190	ng/m³ Air	1.3836		91.3	80-120			
Cadmium	1.37	0.00512	ng/m³ Air	1.3839		98.7	80-120			
Chromium	14.9	2.44	ng/m³ Air	13.832		108	80-120			
Cobalt	1.35	0.0520	ng/m³ Air	1.3835		97.2	80-120			
Copper	28.6	0.752	ng/m³ Air	27.686		103	80-120			
Lead	13.5	0.134	ng/m³ Air	13.833		97.9	80-120			
Manganese	8.36	0.557	ng/m³ Air	8.2792		101	80-120			
Molybdenum	1.50	0.394	ng/m³ Air	1.3831		108	80-120			
Nickel	3.18	0.739	ng/m³ Air	2.7667		115	80-120			
Selenium	2.65	0.0101	ng/m³ Air	2.7661		95.8	80-120			
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		97.1	80-120			
Vanadium	2.72	0.0458	ng/m³ Air	2.7700		98.2	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2804-BS3)				Prepared & Analyzed: 01/28/25						
Antimony	1.36	0.0350	ng/m³ Air	1.3835		98.1	80-120			
Arsenic	2.71	0.00889	ng/m³ Air	2.7664		98.1	80-120			
Barium	27.2	1.54	ng/m³ Air	27.686		98.1	80-120			
Beryllium	1.26	0.00190	ng/m³ Air	1.3836		91.1	80-120			
Cadmium	1.37	0.00512	ng/m³ Air	1.3839		99.0	80-120			
Chromium	14.1	2.44	ng/m³ Air	13.832		102	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.1	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
LCS (B5A2804-BS3) Continued				Prepared & Analyzed: 01/28/25						
Copper	28.2	0.752	ng/m³ Air	27.686		102	80-120			
Lead	13.4	0.134	ng/m³ Air	13.833		97.0	80-120			
Manganese	8.28	0.557	ng/m³ Air	8.2792		100	80-120			
Molybdenum	1.33	0.394	ng/m³ Air	1.3831		96.3	80-120			
Nickel	2.79	0.739	ng/m³ Air	2.7667		101	80-120			
Selenium	2.64	0.0101	ng/m³ Air	2.7661		95.5	80-120			
Thallium	0.133	8.61E-4	ng/m³ Air	0.13828		96.5	80-120			
Vanadium	2.71	0.0458	ng/m³ Air	2.7700		97.8	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5A2804-BS4)				Prepared & Analyzed: 01/28/25						
Antimony	1.39	0.0350	ng/m³ Air	1.3835		100	80-120			
Arsenic	2.76	0.00889	ng/m³ Air	2.7664		99.9	80-120			
Barium	28.1	1.54	ng/m³ Air	27.686		101	80-120			
Beryllium	1.30	0.00190	ng/m³ Air	1.3836		94.2	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	14.4	2.44	ng/m³ Air	13.832		104	80-120			
Cobalt	1.38	0.0520	ng/m³ Air	1.3835		99.4	80-120			
Copper	28.7	0.752	ng/m³ Air	27.686		104	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		99.0	80-120			
Manganese	8.46	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.36	0.394	ng/m³ Air	1.3831		98.7	80-120			
Nickel	2.98	0.739	ng/m³ Air	2.7667		108	80-120			
Selenium	2.72	0.0101	ng/m³ Air	2.7661		98.4	80-120			
Thallium	0.137	8.61E-4	ng/m³ Air	0.13828		99.2	80-120			
Vanadium	2.78	0.0458	ng/m³ Air	2.7700		100	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5A2804-DUP1)		**Source: 5012731-12**		Prepared & Analyzed: 01/28/25						
Antimony	0.104	0.0276	ng/m³ Air		0.106			2.18	10	SL
Arsenic	0.142	0.00701	ng/m³ Air		0.139			2.22	10	
Barium	1.56	1.21	ng/m³ Air		1.57			0.426	10	
Beryllium	0.00370	0.00150	ng/m³ Air		0.00356			4.00	10	
Cadmium	0.0419	0.00404	ng/m³ Air		0.0383			9.05	10	
Chromium	ND	1.92	ng/m³ Air		ND				10	U
Cobalt	0.0887	0.0410	ng/m³ Air		0.0902			1.67	10	
Copper	30.0	0.593	ng/m³ Air		30.5			1.81	10	
Lead	0.663	0.106	ng/m³ Air		0.670			1.01	10	
Manganese	2.23	0.439	ng/m³ Air		2.23			0.0140	10	
Molybdenum	1.63	0.311	ng/m³ Air		1.63			0.302	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Duplicate (B5A2804-DUP1) Continued			**Source: 5012731-12**		Prepared & Analyzed: 01/28/25					
Nickel	0.987	0.582	ng/m³ Air		0.991			0.418	10	
Selenium	0.162	0.00796	ng/m³ Air		0.159			1.90	10	
Thallium	0.00167	6.79E-4	ng/m³ Air		0.00174			4.15	10	
Vanadium	0.544	0.0361	ng/m³ Air		0.540			0.790	10	
Zinc	ND	89.9	ng/m³ Air		ND				10	U
Duplicate (B5A2804-DUP2)			**Source: 5012731-06**		Prepared & Analyzed: 01/28/25					
Antimony	0.262	0.0299	ng/m³ Air		0.265			1.14	10	SL
Arsenic	0.208	0.00760	ng/m³ Air		0.206			1.30	10	
Barium	3.61	1.32	ng/m³ Air		3.61			0.00260	10	
Beryllium	0.00580	0.00162	ng/m³ Air		0.00615			5.91	10	
Cadmium	0.0903	0.00438	ng/m³ Air		0.0876			2.97	10	
Chromium	ND	2.09	ng/m³ Air		ND				10	U
Cobalt	0.200	0.0445	ng/m³ Air		0.206			2.95	10	
Copper	80.2	0.643	ng/m³ Air		75.1			6.58	10	
Lead	1.65	0.115	ng/m³ Air		1.50			9.66	10	
Manganese	6.09	0.476	ng/m³ Air		6.36			4.37	10	
Molybdenum	2.60	0.337	ng/m³ Air		2.56			1.38	10	
Nickel	1.17	0.632	ng/m³ Air		1.14			2.28	10	
Selenium	0.381	0.00864	ng/m³ Air		0.382			0.378	10	
Thallium	0.00300	7.36E-4	ng/m³ Air		0.00314			4.50	10	
Vanadium	0.870	0.0392	ng/m³ Air		0.879			0.972	10	
Zinc	ND	97.5	ng/m³ Air		ND				10	U
Duplicate (B5A2804-DUP3)			**Source: 5012731-20**		Prepared: 01/28/25 Analyzed: 01/29/25					
Antimony	0.211	0.0275	ng/m³ Air		0.214			1.41	10	SL
Arsenic	0.523	0.00697	ng/m³ Air		0.521			0.352	10	
Barium	7.82	1.21	ng/m³ Air		7.97			1.90	10	
Beryllium	0.0172	0.00149	ng/m³ Air		0.0157			9.22	10	
Cadmium	0.292	0.00402	ng/m³ Air		0.296			1.31	10	
Chromium	2.67	1.91	ng/m³ Air		2.69			0.764	10	
Cobalt	0.513	0.0408	ng/m³ Air		0.514			0.142	10	
Copper	53.8	0.590	ng/m³ Air		54.1			0.491	10	
Lead	1.96	0.105	ng/m³ Air		1.98			0.723	10	
Manganese	16.0	0.437	ng/m³ Air		16.0			0.254	10	
Molybdenum	2.39	0.309	ng/m³ Air		2.43			1.52	10	
Nickel	1.81	0.580	ng/m³ Air		1.83			0.931	10	
Selenium	0.236	0.00792	ng/m³ Air		0.232			1.56	10	
Thallium	0.00305	6.75E-4	ng/m³ Air		0.00314			2.95	10	
Vanadium	1.72	0.0359	ng/m³ Air		1.73			0.587	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Duplicate (B5A2804-DUP3) Continued		**Source: 5012731-20**		Prepared: 01/28/25 Analyzed: 01/29/25						
Zinc	ND	89.4	ng/m³ Air		ND				10	U
Duplicate (B5A2804-DUP4)		**Source: 5012731-31**		Prepared: 01/28/25 Analyzed: 01/29/25						
Antimony	0.0850	0.0282	ng/m³ Air		0.0843			0.824	10	SL
Arsenic	0.194	0.00716	ng/m³ Air		0.196			1.10	10	
Barium	3.69	1.24	ng/m³ Air		3.62			2.10	10	LJ, QX
Beryllium	0.00590	0.00153	ng/m³ Air		0.00573			2.85	10	
Cadmium	0.0162	0.00412	ng/m³ Air		0.0166			2.74	10	
Chromium	ND	1.96	ng/m³ Air		ND				10	U
Cobalt	0.199	0.0419	ng/m³ Air		0.200			0.455	10	
Copper	28.1	0.606	ng/m³ Air		28.0			0.119	10	
Lead	0.803	0.108	ng/m³ Air		0.801			0.256	10	
Manganese	6.07	0.449	ng/m³ Air		6.05			0.253	10	
Molybdenum	1.73	0.317	ng/m³ Air		1.71			1.04	10	LJ, QX
Nickel	0.988	0.595	ng/m³ Air		0.990			0.161	10	
Selenium	0.194	0.00813	ng/m³ Air		0.183			6.19	10	
Thallium	ND	6.93E-4	ng/m³ Air		7.21E-4				10	U
Vanadium	0.812	0.0369	ng/m³ Air		0.807			0.670	10	
Zinc	ND	91.8	ng/m³ Air		ND				10	U
Matrix Spike (B5A2804-MS1)		**Source: 5012731-12**		Prepared & Analyzed: 01/28/25						
Antimony	0.743	0.0276	ng/m³ Air	1.0904	0.106	58.4	80-120			SL
Arsenic	2.25	0.00701	ng/m³ Air	2.1803	0.139	96.9	80-120			
Barium	22.6	1.21	ng/m³ Air	21.821	1.57	96.5	80-120			
Beryllium	1.09	0.00150	ng/m³ Air	1.0905	0.00356	99.8	80-120			
Cadmium	1.13	0.00404	ng/m³ Air	1.0907	0.0383	99.6	80-120			
Chromium	11.8	1.92	ng/m³ Air	10.902	ND	109	80-120			
Cobalt	1.13	0.0410	ng/m³ Air	1.0904	0.0902	95.4	80-120			
Copper	51.1	0.593	ng/m³ Air	21.821	30.5	94.2	80-120			
Lead	11.3	0.106	ng/m³ Air	10.903	0.670	97.9	80-120			
Manganese	8.44	0.439	ng/m³ Air	6.5254	2.23	95.2	80-120			
Molybdenum	2.66	0.311	ng/m³ Air	1.0901	1.63	94.1	80-120			
Nickel	3.02	0.582	ng/m³ Air	2.1806	0.991	92.9	80-120			
Selenium	2.24	0.00796	ng/m³ Air	2.1801	0.159	95.4	80-120			
Thallium	0.107	6.79E-4	ng/m³ Air	0.10898	0.00174	96.2	80-120			
Vanadium	2.64	0.0361	ng/m³ Air	2.1832	0.540	96.1	80-120			
Zinc	ND	89.9	ng/m³ Air	65.397	ND		80-120			U
Matrix Spike (B5A2804-MS2)		**Source: 5012731-06**		Prepared & Analyzed: 01/28/25						
Antimony	1.03	0.0299	ng/m³ Air	1.1831	0.265	65.0	80-120			SL
Arsenic	2.60	0.00760	ng/m³ Air	2.3657	0.206	101	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Matrix Spike (B5A2804-MS2) Continued Source: 5012731-06 Prepared & Analyzed: 01/28/25										
Barium	27.5	1.32	ng/m³ Air	23.676	3.61	101	80-120			
Beryllium	1.11	0.00162	ng/m³ Air	1.1832	0.00615	93.1	80-120			
Cadmium	1.29	0.00438	ng/m³ Air	1.1834	0.0876	101	80-120			
Chromium	13.6	2.09	ng/m³ Air	11.828	ND	115	80-120			
Cobalt	1.40	0.0445	ng/m³ Air	1.1831	0.206	101	80-120			
Copper	103	0.643	ng/m³ Air	23.676	75.1	118	80-120			
Lead	13.4	0.115	ng/m³ Air	11.830	1.50	101	80-120			
Manganese	13.6	0.476	ng/m³ Air	7.0800	6.36	103	80-120			
Molybdenum	3.87	0.337	ng/m³ Air	1.1827	2.56	111	80-120			
Nickel	3.51	0.632	ng/m³ Air	2.3659	1.14	100	80-120			
Selenium	2.71	0.00864	ng/m³ Air	2.3655	0.382	98.2	80-120			
Thallium	0.118	7.36E-4	ng/m³ Air	0.11825	0.00314	96.8	80-120			
Vanadium	3.27	0.0392	ng/m³ Air	2.3688	0.879	101	80-120			
Zinc	ND	97.5	ng/m³ Air	70.956	ND		80-120			U
Matrix Spike Dup (B5A2804-MSD1) Source: 5012731-12 Prepared & Analyzed: 01/28/25										
Antimony	0.785	0.0276	ng/m³ Air	1.0904	0.106	62.3	80-120	5.53	20	SL
Arsenic	2.31	0.00701	ng/m³ Air	2.1803	0.139	99.6	80-120	2.59	20	
Barium	23.4	1.21	ng/m³ Air	21.821	1.57	100	80-120	3.39	20	
Beryllium	1.03	0.00150	ng/m³ Air	1.0905	0.00356	93.8	80-120	6.15	20	
Cadmium	1.13	0.00404	ng/m³ Air	1.0907	0.0383	99.8	80-120	0.120	20	
Chromium	12.2	1.92	ng/m³ Air	10.902	ND	112	80-120	3.29	20	
Cobalt	1.16	0.0410	ng/m³ Air	1.0904	0.0902	98.5	80-120	2.96	20	
Copper	53.2	0.593	ng/m³ Air	21.821	30.5	104	80-120	4.10	20	
Lead	11.6	0.106	ng/m³ Air	10.903	0.670	100	80-120	2.08	20	
Manganese	8.79	0.439	ng/m³ Air	6.5254	2.23	100	80-120	4.01	20	
Molybdenum	2.75	0.311	ng/m³ Air	1.0901	1.63	102	80-120	3.24	20	
Nickel	3.16	0.582	ng/m³ Air	2.1806	0.991	99.7	80-120	4.73	20	
Selenium	2.25	0.00796	ng/m³ Air	2.1801	0.159	95.9	80-120	0.508	20	
Thallium	0.108	6.79E-4	ng/m³ Air	0.10898	0.00174	97.7	80-120	1.56	20	
Vanadium	2.72	0.0361	ng/m³ Air	2.1832	0.540	99.8	80-120	2.98	20	
Zinc	ND	89.9	ng/m³ Air	65.397	ND		80-120		20	U
Matrix Spike Dup (B5A2804-MSD2) Source: 5012731-06 Prepared & Analyzed: 01/28/25										
Antimony	1.02	0.0299	ng/m³ Air	1.1831	0.265	64.1	80-120	0.958	20	SL
Arsenic	2.53	0.00760	ng/m³ Air	2.3657	0.206	98.5	80-120	2.60	20	
Barium	27.2	1.32	ng/m³ Air	23.676	3.61	99.8	80-120	0.977	20	
Beryllium	1.12	0.00162	ng/m³ Air	1.1832	0.00615	94.4	80-120	1.37	20	
Cadmium	1.29	0.00438	ng/m³ Air	1.1834	0.0876	101	80-120	0.156	20	
Chromium	15.3	2.09	ng/m³ Air	11.828	ND	130	80-120	11.7	20	

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FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Matrix Spike Dup (B5A2804-MSD2) Conti			**Source: 5012731-06**		Prepared & Analyzed: 01/28/25					
Cobalt	1.39	0.0445	ng/m³ Air	1.1831	0.206	100	80-120	0.528	20	
Copper	101	0.643	ng/m³ Air	23.676	75.1	111	80-120	1.65	20	
Lead	13.4	0.115	ng/m³ Air	11.830	1.50	101	80-120	0.321	20	
Manganese	13.5	0.476	ng/m³ Air	7.0800	6.36	100	80-120	1.32	20	
Molybdenum	3.87	0.337	ng/m³ Air	1.1827	2.56	111	80-120	0.0540	20	
Nickel	4.00	0.632	ng/m³ Air	2.3659	1.14	121	80-120	13.2	20	QM-07
Selenium	2.73	0.00864	ng/m³ Air	2.3655	0.382	99.3	80-120	0.952	20	
Thallium	0.118	7.36E-4	ng/m³ Air	0.11825	0.00314	97.3	80-120	0.574	20	
Vanadium	3.23	0.0392	ng/m³ Air	2.3688	0.879	99.4	80-120	1.03	20	
Zinc	ND	97.5	ng/m³ Air	70.956	ND		80-120		20	U
Post Spike (B5A2804-PS1)			**Source: 5012731-12**		Prepared & Analyzed: 01/28/25					
Antimony	0.323	0.0276	ng/m³ Air	0.21799	0.106	99.7	75-125			SL
Arsenic	1.21	0.00701	ng/m³ Air	1.0900	0.139	98.5	75-125			
Barium	3.73	1.21	ng/m³ Air	2.1799	1.57	99.2	75-125			
Beryllium	0.212	0.00150	ng/m³ Air	0.21799	0.00356	95.8	75-125			
Cadmium	0.151	0.00404	ng/m³ Air	0.10900	0.0383	103	75-125			
Chromium	2.13	1.92	ng/m³ Air	1.0900	ND	196	75-125			
Cobalt	0.308	0.0410	ng/m³ Air	0.21799	0.0902	99.8	75-125			
Copper	42.0	0.593	ng/m³ Air	10.900	30.5	105	75-125			
Lead	22.5	0.106	ng/m³ Air	21.799	0.670	100	75-125			
Manganese	4.41	0.439	ng/m³ Air	2.1799	2.23	100	75-125			
Molybdenum	2.70	0.311	ng/m³ Air	1.0900	1.63	97.9	75-125			
Nickel	3.15	0.582	ng/m³ Air	2.1799	0.991	99.3	75-125			
Selenium	1.23	0.00796	ng/m³ Air	1.0900	0.159	98.2	75-125			
Thallium	0.0563	6.79E-4	ng/m³ Air	5.4498E-2	0.00174	100	75-125			
Vanadium	1.63	0.0361	ng/m³ Air	1.0900	0.540	100	75-125			
Zinc	ND	89.9	ng/m³ Air	21.799	ND		75-125			U
Post Spike (B5A2804-PS2)			**Source: 5012731-06**		Prepared & Analyzed: 01/28/25					
Antimony	0.509	0.0299	ng/m³ Air	0.23652	0.265	103	75-125			SL
Arsenic	1.36	0.00760	ng/m³ Air	1.1826	0.206	97.4	75-125			
Barium	5.88	1.32	ng/m³ Air	2.3652	3.61	96.0	75-125			
Beryllium	0.235	0.00162	ng/m³ Air	0.23652	0.00615	96.6	75-125			
Cadmium	0.211	0.00438	ng/m³ Air	0.11826	0.0876	105	75-125			
Chromium	2.88	2.09	ng/m³ Air	1.1826	ND	244	75-125			
Cobalt	0.443	0.0445	ng/m³ Air	0.23652	0.206	100	75-125			
Copper	87.9	0.643	ng/m³ Air	11.826	75.1	108	75-125			
Lead	25.2	0.115	ng/m³ Air	23.652	1.50	100	75-125			
Manganese	8.75	0.476	ng/m³ Air	2.3652	6.36	101	75-125			

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FILE #: 4205.00.003.001
REPORTED: 02/05/25 11:12
SUBMITTED: 01/27/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Post Spike (B5A2804-PS2) Continued		**Source: 5012731-06**		Prepared & Analyzed: 01/28/25						
Molybdenum	3.74	0.337	ng/m³ Air	1.1826	2.56	99.0	75-125			
Nickel	3.49	0.632	ng/m³ Air	2.3652	1.14	99.2	75-125			
Selenium	1.48	0.00864	ng/m³ Air	1.1826	0.382	93.1	75-125			
Thallium	0.0607	7.36E-4	ng/m³ Air	5.9130E-2	0.00314	97.3	75-125			
Vanadium	2.06	0.0392	ng/m³ Air	1.1826	0.879	99.6	75-125			
Zinc	ND	97.5	ng/m³ Air	23.652	ND		75-125			U
Dilution Check (B5A2804-SRL1)		**Source: 5012731-12**		Prepared & Analyzed: 01/28/25						
Antimony	ND	0.138	ng/m³ Air		ND				10	SL, U
Arsenic	0.137	0.0350	ng/m³ Air		0.139			1.62	10	
Barium	ND	6.07	ng/m³ Air		ND				10	U
Beryllium	ND	0.00749	ng/m³ Air		ND				10	U
Cadmium	0.0377	0.0202	ng/m³ Air		0.0383			1.51	10	
Chromium	ND	9.62	ng/m³ Air		ND				10	U
Cobalt	ND	0.205	ng/m³ Air		ND				10	U
Copper	30.5	2.96	ng/m³ Air		30.5			0.118	10	
Lead	0.653	0.528	ng/m³ Air		0.670			2.45	10	
Manganese	2.25	2.20	ng/m³ Air		2.23			0.732	10	
Molybdenum	1.60	1.55	ng/m³ Air		1.63			2.14	10	
Nickel	ND	2.91	ng/m³ Air		ND				10	U
Selenium	0.161	0.0398	ng/m³ Air		0.159			1.61	10	
Thallium	ND	0.00339	ng/m³ Air		ND				10	U
Vanadium	0.522	0.180	ng/m³ Air		0.540			3.30	10	
Zinc	ND	449	ng/m³ Air		ND				10	U
Dilution Check (B5A2804-SRL2)		**Source: 5012731-06**		Prepared & Analyzed: 01/28/25						
Antimony	0.266	0.150	ng/m³ Air		0.265			0.345	10	SL
Arsenic	0.208	0.0380	ng/m³ Air		0.206			1.21	10	
Barium	ND	6.58	ng/m³ Air		ND				10	U
Beryllium	ND	0.00812	ng/m³ Air		ND				10	U
Cadmium	0.0858	0.0219	ng/m³ Air		0.0876			2.14	10	
Chromium	ND	10.4	ng/m³ Air		ND				10	U
Cobalt	ND	0.222	ng/m³ Air		ND				10	U
Copper	75.8	3.22	ng/m³ Air		75.1			0.959	10	
Lead	1.49	0.573	ng/m³ Air		1.50			0.881	10	
Manganese	6.49	2.38	ng/m³ Air		6.36			1.92	10	
Molybdenum	2.59	1.68	ng/m³ Air		2.56			0.825	10	
Nickel	ND	3.16	ng/m³ Air		ND				10	U
Selenium	0.417	0.0432	ng/m³ Air		0.382			8.83	10	
Thallium	0.00481	0.00368	ng/m³ Air		ND			41.9	10	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5A2804 - ICP-MS Extraction										
Dilution Check (B5A2804-SRL2) ContinueSource: 5012731-06 Prepared & Analyzed: 01/28/25										
Vanadium	0.874	0.196	ng/m³ Air		0.879			0.580	10	
Zinc	ND	487	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
BR	Sample Value Below Acceptable Range
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/06/2025 and Shanna Vasser 02/07/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 01/16/2025 – 01/22/2025
Report No: 5012731

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for copper in MFL-FB01-011625-HM, for arsenic in MFL-FB01-012025-HM, and for copper in MFL-LB01-012125-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

January 23 through January 29, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from January 23 through January 29, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)
- Maria Lanakila Catholic Church (AM-09)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 23 through January 29, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station.

The PM_{10} monitoring results were found to have exceeded the 150 µg/m^3 TWA screening level on two days: at the Lahaina Pump Station #6 monitoring location on January 26, and at the Maria Lanakila Catholic Church and Lahaina Pump Station #6 monitoring locations on January 27 as shown in **Table 1**.

The air monitoring and sampling stations at Lahaina Pump Station #6 and Maria Lanakila Catholic Church exceedances may have been attributable to high humidity. The exceedances on January 26 and 27 are described below:

- On January 26, no United States Army Corps of Engineers (USACE) debris crews were observed near the Lahaina Pump Station #6 monitoring station. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted near this monitoring location.
    - Humidity averaged 75 percent at Lahaina Pump Station #6 with humidity reaching as high as 86 percent throughout the day. Excessive humid conditions can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.
- On January 27, United States Army Corps of Engineers (USACE) debris crews were observed near the Lahaina Pump Station #6 monitoring station. Elevated particulate data contributing to the TWA exceedance was recorded in the early morning and late evening, outside of USACE debris crew operational hours. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted in the early morning and late evening.
    - Humidity averaged 72 percent at Lahaina Pump Station #6 with humidity reaching as high as 88 percent throughout the day. Excessive humid conditions can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.
- On January 27, no United States Army Corps of Engineers (USACE) debris crews were observed near the Maria Lanakila Catholic Church monitoring station. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted near this monitoring location.
    - Humidity averaged 75 percent at Maria Lanakila Catholic Church with humidity reaching as high as 94 percent throughout the day. Excessive humid conditions can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on January 23 through 26
- WW Pump Station #4 on January 23 through 26
- Lahaina Pump Station #6 on January 23 through 26
- Maria Lanakila Catholic Church on January 23 through 27

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

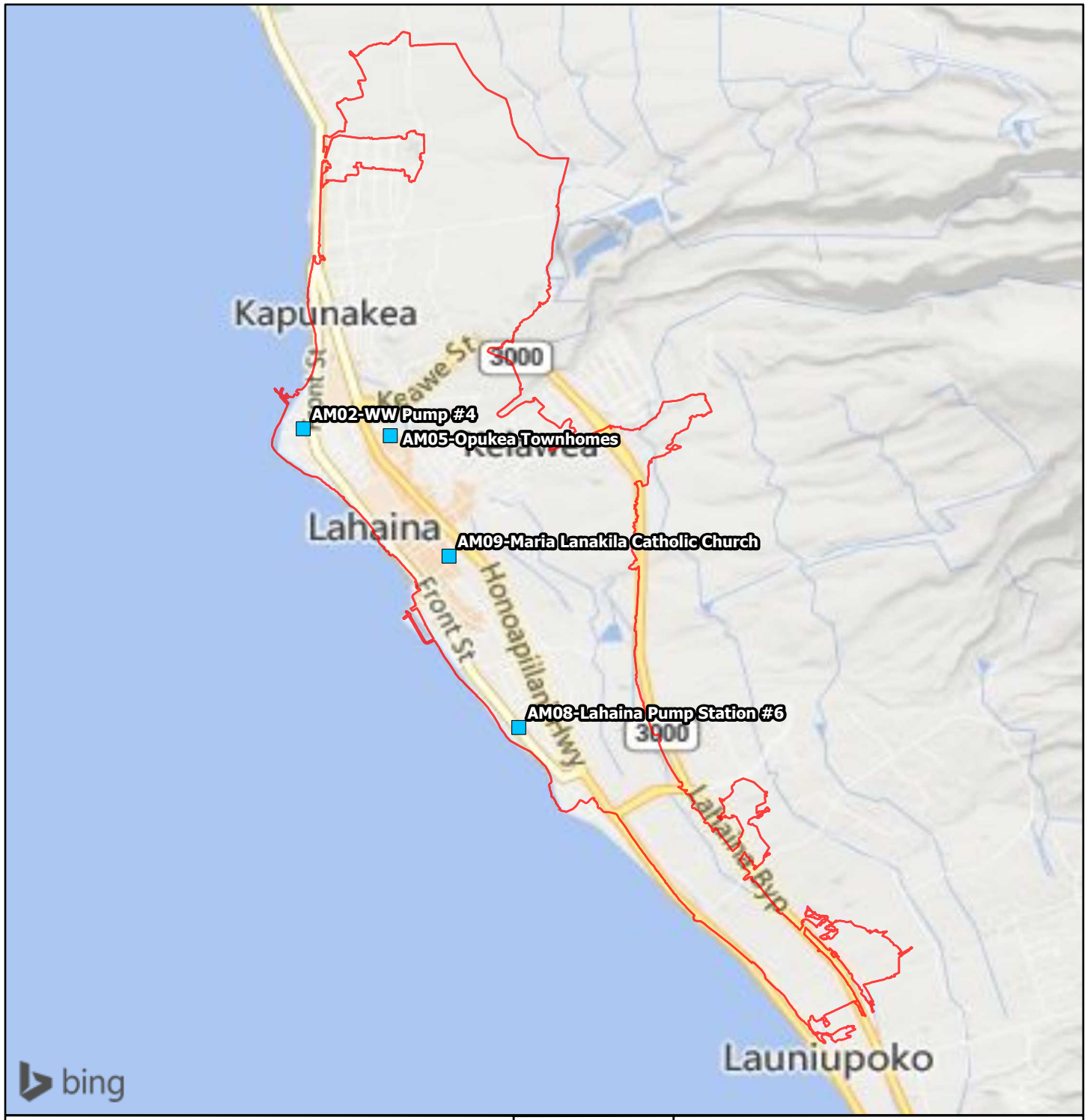
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Lahaina Fire Perimeter

Air Sampling Locations

N

0 0.25 0.5

Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Path: \\etss706gisfs1\CORPArcGisShare\EMI\Denver\Lahaina_Fire\Lahaina_Fire\Lahaina_Fire.aprx\Lahaina_Fire_AM01-AM09

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 23 through January 29, 2025

Screening Level		TWA Results 150 (µg/m³)
1/23/2025	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.8
	Maria Lanakila Catholic Church (AM-09)	130
	Lahaina Pump Station #6 (AM-08)	9.6
1/24/2025	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.8
	Maria Lanakila Catholic Church (AM-09)	65
	Lahaina Pump Station #6 (AM-08)	6.8
1/25/2025	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	7.9
	Maria Lanakila Catholic Church (AM-09)	10
	Lahaina Pump Station #6 (AM-08)	5.5
1/26/2025	Opukea Townhomes (AM-05)	9.3
	WW Pump Station #4 (AM-02)	8.6
	Maria Lanakila Catholic Church (AM-09)	14
	Lahaina Pump Station #6 (AM-08)	**222**
1/27/2025	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	11
	Maria Lanakila Catholic Church (AM-09)	**223**
	Lahaina Pump Station #6 (AM-08)	**282**
1/28/2025	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	5.8
	Maria Lanakila Catholic Church (AM-09)	121
	Lahaina Pump Station #6 (AM-08)	5.9
1/29/2025	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	6.8
	Maria Lanakila Catholic Church (AM-09)	8.2
	Lahaina Pump Station #6 (AM-08)	5.0

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Shaded cell indicates an exceedance of screening level

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 23 through January 29, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
1/23/2025	Opukea Townhomes (AM-05)	<0.0024	0.000150	0.000142	0.00391	0.00000467	0.0000112	ND	0.000145	0.0772	0.000342	0.00433	0.00292	0.000917	0.000230	ND	0.000595	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000236	0.000181	0.00330	0.00000344	0.0000106	ND	0.0000939	0.0649	0.000366	0.00284	0.00253	0.000795	0.000235	0.000000704	0.000460	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000107	0.000202	0.00304	0.00000316	0.0000427	ND	0.000103	0.0255	0.000367	0.00339	0.00145	0.000747	0.000243	ND	0.000455	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000191	0.000187	0.00257	0.00000280	0.0000316	ND	0.000128	0.0372	0.000415	0.00314	0.00200	0.00185	0.000223	ND	0.000384	ND
1/24/2025	Opukea Townhomes (AM-05)	<0.0024	0.000265	0.000198	0.00717	0.0000110	0.0000174	0.00225	0.000392	0.0930	0.000481	0.0102	0.00325	0.00160	0.000341	0.00000132	0.00148	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000397	0.000365	0.00906	0.0000171	0.0000200	0.00247	0.000489	0.0653	0.00115	0.0139	0.00284	0.00178	0.000368	0.00000152	0.00191	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000203	0.000404	0.00852	0.00000786	0.0000299	ND	0.000273	0.0335	0.000502	0.00675	0.00196	0.00118	0.000378	0.00000125	0.00101	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000187	0.000235	0.00386	0.00000425	0.0000171	ND	0.000131	0.0521	0.000581	0.00389	0.00201	0.000887	0.000273	0.00000105	0.000691	ND
1/25/2025	Opukea Townhomes (AM-05)	<0.0024	0.000220	0.000257	0.00635	0.0000150	0.0000291	0.00244	0.000522	0.131	0.000485	0.0152	0.00355	0.00152	0.000342	0.00000301	0.00158	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000398	0.000318	0.00887	0.0000183	0.0000367	0.00248	0.000470	0.0627	0.00133	0.0152	0.00254	0.00174	0.000385	0.00000336	0.00164	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000165	0.000253	0.00411	0.00000810	0.0000331	ND	0.000287	0.0308	0.000508	0.00832	0.00175	0.000978	0.000335	0.00000300	0.000836	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000121	0.000200	0.00390	0.00000519	0.0000246	ND	0.000170	0.0511	0.000314	0.00506	0.00165	0.000811	0.000301	0.00000261	0.000552	ND
1/26/2025	Opukea Townhomes (AM-05)	<0.0024	0.000120	0.000219	0.00470	0.0000128	0.0000248	ND	0.000361	0.112	0.000384	0.0128	0.00280	0.00102	0.000216	0.00000148	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000225	0.000144	0.00464	0.00000635	0.000115	ND	0.000177	0.0651	0.000344	0.00534	0.00223	0.000824	0.000187	0.00000151	0.000632	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000889	0.000159	0.00294	0.00000326	0.0000193	ND	0.0000931	0.0437	0.000250	0.00297	0.00186	0.000609	0.000163	0.000000755	0.000374	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000119	0.000225	0.00245	0.00000363	0.00000987	ND	0.000120	0.0639	0.000196	0.00397	0.00201	ND	0.000154	ND	0.000457	ND
1/27/2025	Opukea Townhomes (AM-05)	<0.0024	0.000112	0.000125	0.00327	0.00000480	0.00000915	ND	0.000162	0.0849	0.000195	0.00476	0.00270	0.000912	0.000137	ND	0.000572	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000246	0.000161	0.00399	0.00000487	0.0000109	ND	0.000144	0.0693	0.000374	0.00447	0.00241	0.000962	0.000157	0.000000754	0.000541	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000101	0.000212	0.00290	0.00000424	0.0000116	ND	0.000140	0.0331	0.000302	0.00420	0.00174	0.000842	0.000137	ND	0.000445	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000133	0.000223	0.00231	0.00000312	0.0000133	ND	0.000122	0.0357	0.000245	0.00357	0.00157	0.000752	0.000131	ND	0.000376	ND
1/28/2025	Opukea Townhomes (AM-05)	<0.0024	0.000151	0.000216	0.00536	0.0000135	0.0000189	0.00295	0.000542	0.0910	0.000328	0.0137	0.00248	0.00212	0.000120	0.000000963	0.00154	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000147	0.000266	0.00523	0.0000147	0.0000162	0.00215	0.000420	0.0641	0.00123	0.0131	0.00250	0.00145	0.000129	0.000000773	0.00137	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000846	0.000217	0.00358	0.00000869	0.0000207	0.00217	0.000486	0.0267	0.000509	0.00974	0.00156	0.00622	0.0000937	ND	0.00105	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000996	0.000244	0.00291	0.00000972	0.000678	ND	0.000288	0.0302	0.000342	0.00777	0.00107	0.00127	0.0000918	0.00000402	0.000802	ND
1/29/2025	Opukea Townhomes (AM-05)	<0.0024	0.000211	0.000210	0.00545	0.0000134	0.0000143	0.00256	0.000538	0.0869	0.000354	0.0137	0.00286	0.00178	0.000196	0.00000104	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000375	0.000252	0.00853	0.0000182	0.0000211	0.00236	0.000520	0.118	0.00109	0.0158	0.00397	0.00168	0.000238	0.00000111	0.00171	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000168	0.000144	0.00355	0.00000573	0.0000111	ND	0.000181	0.0385	0.000409	0.00510	0.00192	0.000860	0.000199	ND	0.000614	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000113	0.000138	0.00303	0.00000460	0.0000107	ND	0.000164	0.0446	0.000287	0.00480	0.00156	0.000833	0.000146	ND	0.000518	ND
95% Upper Confidence Limit[2]		NA	0.000220	0.000240	0.00534	0.0000110	0.0000470	0.00258	0.000350	0.0738	0.000580	0.00981	0.00253	0.00159	0.000260	0.00000220	0.000112	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 23 through January 29, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/23/2025	AM-02	WW Pump Station #4	0.6	SSW	74	68	761.5
1/23/2025	AM-09	Maria Lanakila Catholic Church	1.0	S	73	70	760.9
1/23/2025	AM-05	Opukea Townhomes	0.8	E	74	69	760.7
1/23/2025	AM-08	Lahaina Pump Station #6	1.2	S	73	68	761.3
1/24/2024	AM-02	WW Pump Station #4	0.8	SSE	74	70	762.5
1/24/2024	AM-09	Maria Lanakila Catholic Church	1.0	SSE	75	68	761.9
1/24/2024	AM-05	Opukea Townhomes	1.0	ESE	76	67	761.6
1/24/2024	AM-08	Lahaina Pump Station #6	1.3	SSE	74	68	762.3
1/25/2025	AM-02	WW Pump Station #4	0.8	S	76	68	762.2
1/25/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	77	67	761.7
1/25/2025	AM-05	Opukea Townhomes	1.1	SE	77	66	761.4
1/25/2025	AM-08	Lahaina Pump Station #6	1.4	SE	76	67	762.0
1/26/2025	AM-02	WW Pump Station #4	1.0	SE	76	74	763.0
1/26/2025	AM-09	Maria Lanakila Catholic Church	0.9	SE	76	75	762.5
1/26/2025	AM-05	Opukea Townhomes	1.1	SE	77	74	762.2
1/26/2025	AM-08	Lahaina Pump Station #6	1.6	SE	75	75	762.8
1/27/2024	AM-02	WW Pump Station #4	1.3	SE	74	77	761.9
1/27/2024	AM-09	Maria Lanakila Catholic Church	2.1	SSE	75	75	761.4
1/27/2024	AM-05	Opukea Townhomes	1.8	E	75	75	761.1
1/27/2024	AM-08	Lahaina Pump Station #6	2.7	SSE	74	72	761.6
1/28/2025	AM-02	WW Pump Station #4	1.4	SE	73	68	760.4
1/28/2025	AM-09	Maria Lanakila Catholic Church	1.8	SSE	74	67	759.8
1/28/2025	AM-05	Opukea Townhomes	1.8	ESE	73	68	759.6
1/28/2025	AM-08	Lahaina Pump Station #6	2.2	SE	73	66	760.1
1/29/2025	AM-02	WW Pump Station #4	1.0	SSE	75	71	759.5
1/29/2025	AM-09	Maria Lanakila Catholic Church	1.2	S	75	71	759.0
1/29/2025	AM-05	Opukea Townhomes	1.4	SE	76	71	758.7
1/29/2025	AM-08	Lahaina Pump Station #6	2.1	SSE	75	70	759.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012325-AB**		**Sample Description:**	**Dl915176**
EMSL Sample Number:	042501793-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0001 **Customer Sample:** MFL-AM05-012325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C8	None Detected									
B1	A7	None Detected									
B2	H9	None Detected									
B2	F10	None Detected									
B3	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012325-AB**		**Sample Description:**	**DL915219**
EMSL Sample Number:	042501793-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0002 **Customer Sample:** MFL-AM02-012325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I7	None Detected									
B5	H5	None Detected									
B6	C2	None Detected									
B6	D1	None Detected									
B7	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012325-AB**		**Sample Description:**	**DL915218**
EMSL Sample Number:	042501793-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0003 **Customer Sample:** MFL-AM09-012325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A4	None Detected									
C1	B3	None Detected									
C2	D7	None Detected									
C2	E9	None Detected									
C3	J3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012325-AB**		**Sample Description:**	**DL915221**
EMSL Sample Number:	042501793-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0004 **Customer Sample:** MFL-AM08-012325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	E3	None Detected									
C5	D4	None Detected									
C6	J5	None Detected									
C6	H3	None Detected									
C7	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012325-AB** **Sample Description: DL915237**

EMSL Sample Number:	042501793-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0005 **Customer Sample:** MFL-FB01-012325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J9	None Detected									
D1	J7	None Detected									
D1	I8	None Detected									
D1	I6	None Detected									
D2	A3	None Detected									
D2	A5	None Detected									
D2	B4	None Detected									
D3	H7	None Detected									
D3	H5	None Detected									
D3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012425-AB**		**Sample Description:**	**DL915202**
EMSL Sample Number:	042501793-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0006 **Customer Sample:** MFL-AM05-012425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J8	None Detected									
D5	I9	None Detected									
D6	A7	None Detected									
D6	B8	None Detected									
D7	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/04/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012425-AB**		**Sample Description:**	**DL915201**
EMSL Sample Number:	042501793-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0007 **Customer Sample:** MFL-AM02-012425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	G9	None Detected									
E1	F6	None Detected									
E2	J10	None Detected									
E2	I7	None Detected									
E3	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012425-AB**		**Sample Description:**	**DL915252**
EMSL Sample Number:	042501793-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7247.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0008 **Customer Sample:** MFL-AM09-012425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I5	None Detected									
E5	D6	None Detected									
E6	A2	None Detected									
E6	C1	None Detected									
E7	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012425-AB**		**Sample Description:**	**DL915227**
EMSL Sample Number:	042501793-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7112.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0009 **Customer Sample:** MFL-AM08-012425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B6	None Detected									
F1	E7	None Detected									
F2	J5	None Detected									
F2	I4	None Detected									
F3	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012425-AB** **Sample Description: DL915205**

EMSL Sample Number:	042501793-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0010 **Customer Sample:** MFL-FB01-012425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J6	None Detected									
F5	J4	None Detected									
F5	H7	None Detected									
F5	H5	None Detected									
F6	I4	None Detected									
F6	I2	None Detected									
F6	G1	None Detected									
F7	D3	None Detected									
F7	D5	None Detected									
F7	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012525-AB**		**Sample Description:**	**DL915226**
EMSL Sample Number:	042501793-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0011 **Customer Sample:** MFL-AM05-012525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	E7	None Detected									
G1	F8	None Detected									
G2	A5	None Detected									
G2	C6	None Detected									
G3	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012525-AB**		**Sample Description:**	**DL915200**
EMSL Sample Number:	042501793-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0012 **Customer Sample:** MFL-AM02-012525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	B8	None Detected									
G6	C9	None Detected									
G6	E10	None Detected									
G7	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012525-AB**		**Sample Description:**	**DL915212**
EMSL Sample Number:	042501793-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0013 **Customer Sample:** MFL-AM09-012525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B5	None Detected									
H1	D7	None Detected									
H2	J6	None Detected									
H2	I8	None Detected									
H3	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012525-AB**	**Sample Description:**	**DL915198**
EMSL Sample Number:	042501793-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7220.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0014 **Customer Sample:** MFL-AM08-012525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	E2	None Detected									
H5	G4	None Detected									
H6	B6	None Detected									
H6	D3	None Detected									
H7	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012525-AB** **Sample Description: DL915231**

EMSL Sample Number:	042501793-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0015 **Customer Sample:** MFL-FB01-012525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J5	None Detected									
I1	J3	None Detected									
I1	H6	None Detected									
I1	H4	None Detected									
I2	G7	None Detected									
I2	G5	None Detected									
I2	F6	None Detected									
I3	C9	None Detected									
I3	C7	None Detected									
I3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-012625-AB**	**Sample Description:**	**DL915234**
EMSL Sample Number:	042501793-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7207.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0016 **Customer Sample:** MFL-AM05-012625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J9	None Detected									
I5	I8	None Detected									
I6	H6	None Detected									
I6	G5	None Detected									
I7	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012625-AB**		**Sample Description:**	**DL915244**
EMSL Sample Number:	042501793-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0017 **Customer Sample:** MFL-AM02-012625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B7	None Detected									
J1	C8	None Detected									
J2	A5	None Detected									
J2	D6	None Detected									
J3	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Analysis Date:	02/03/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-012625-AB**	**Sample Description:**	**DL915228**
EMSL Sample Number:	042501793-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7217.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0018 **Customer Sample:** MFL-AM09-012625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	E7	None Detected									
J5	F6	None Detected									
J6	A3	None Detected									
J6	B4	None Detected									
J7	I9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-012625-AB**		**Sample Description:**	**DL915247**
EMSL Sample Number:	042501793-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7285.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0019 **Customer Sample:** MFL-AM08-012625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J8	None Detected									
K1	H7	None Detected									
K2	A5	None Detected									
K2	C6	None Detected									
K3	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	01/29/2025 09:35 AM
Analysis Date:	02/04/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012625-AB** **Sample Description: DL915195**

EMSL Sample Number:	042501793-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0020 **Customer Sample:** MFL-FB01-012625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	C6	None Detected									
K5	C8	None Detected									
K5	D5	None Detected									
K5	D7	None Detected									
K6	J4	None Detected									
K6	J2	None Detected									
K6	I3	None Detected									
K7	B7	None Detected									
K7	A8	None Detected									
K7	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042501793
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	01/29/2025 09:35 AM
Analysis Date:	01/31/2025
Report Date:	02/04/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042501793-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042501793
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042501793-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	C4	None Detected									
A1	C6	None Detected									
A1	D5	None Detected									
A1	D7	None Detected									
A2	A7	None Detected									
A2	A9	None Detected									
A2	B6	None Detected									
A3	J6	None Detected									
A3	J4	None Detected									
A3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042501793

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 25 JAN 29 AM 9:39

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.6 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-012325-AB	DL915176	7,198.334	01/23/25 1054
MFL-AM02-012325-AB	DL915219	7,181.906	01/23/25 1109
MFL-AM09-012325-AB	DL915218	7,189.036	01/23/25 1253
MFL-AM08-012325-AB	DL915221	7,241.108	01/23/25 1314
MFL-FB01-012325-AB	DL915237	0	01/23/25 1200
MFL-AM05-012425-AB	DL915202	7,222.929	01/24/25 1054
MFL-AM02-012425-AB	DL915201	7,245.365	01/24/25 1111
MFL-AM09-012425-AB	DL915252	7,247.611	01/24/25 1253

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20 SP

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
Shaina Epstein	01/27/25 1100	FedEx	1/29/25 9:35A
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042501793

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-012425-AB	DL915227	7,112.311	01/24/25 1306
MFL-FB01-012425-AB	DL915205	0	01/24/25 1200
MFL-AM05-012525-AB	DL915226	7,222.197	01/25/25 1055
MFL-AM02-012525-AB	DL915200	7,147.130	01/25/25 1108
MFL-AM09-012525-AB	DL915212	7,216.445	01/25/25 1249
MFL-AM08-012525-AB	DL915198	7,220.764	01/25/25 1304
MFL-FB01-012525-AB	DL915231	0	01/25/25 1200
MFL-AM05-012625-AB	DL915234	7,207.417	01/26/25 1056
MFL-AM02-012625-AB	DL915244	7,222.896	01/26/25 1112
MFL-AM09-012625-AB	DL915228	7,217.753	01/26/25 1251
MFL-AM08-012625-AB	DL915247	7,285.115	01/26/25 1304
MFL-FB01-012625-AB	DL915195	0	01/26/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 29 AM 9:39

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shenna Epstein	Date/Time: 01/27/25 1100	Received by: FedEx	Date/Time 1/29/25 9:35 A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/06/2025 and Shanna Vasser 02/07/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/23/2025 – 01/26/2025
Report No: 42501793

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502129
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-012725-AB** **Sample Description: DL915229**

EMSL Sample Number:	042502129-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0001 **Customer Sample:** MFL-AM05-012725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A6	None Detected									
A5	F4	None Detected									
A5	I7	None Detected									
A6	E3	None Detected									
A6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502129
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012725-AB** **Sample Description: DL915225**

EMSL Sample Number:	042502129-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): 0.0008 **Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0002 **Customer Sample:** MFL-AM02-012725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B7	None Detected									
B1	E3	None Detected									
B1	J6	None Detected									
B2	G4	None Detected									
B2	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502129
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-012725-AB** **Sample Description: DL915206**

EMSL Sample Number:	042502129-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7248.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0003 **Customer Sample:** MFL-AM09-012725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B3	None Detected									
B5	E7	None Detected									
B5	I5	None Detected									
B6	D2	None Detected									
B6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-012725-AB** **Sample Description: DL915211**

EMSL Sample Number:	042502129-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7237.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0004 **Customer Sample:** MFL-AM08-012725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A5	None Detected									
C1	F8	None Detected									
C1	J4	None Detected									
C2	B7	None Detected									
C2	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Customer ID:	TTDC42
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Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012725-AB** **Sample Description: DL915197**

EMSL Sample Number:	042502129-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0005 **Customer Sample:** MFL-FB01-012725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I4	None Detected									
C5	F7	None Detected									
C5	E3	None Detected									
C5	B5	None Detected									
C6	D6	None Detected									
C6	E3	None Detected									
C6	H4	None Detected									
C7	A2	None Detected									
C7	D7	None Detected									
C7	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-012825-AB** **Sample Description: DL915224**

EMSL Sample Number:	042502129-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7309.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0006 **Customer Sample:** MFL-AM05-012825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	H8	None Detected									
D1	G7	None Detected									
D2	I6	None Detected									
D2	F4	None Detected									
D3	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012825-AB** **Sample Description: DL915217**

EMSL Sample Number:	042502129-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0007 **Customer Sample:** MFL-AM02-012825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	B4	None Detected									
D5	C7	None Detected									
D6	I5	None Detected									
D6	J6	None Detected									
D7	E7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502129
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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Tetra Tech
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Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-012825-AB** **Sample Description: DL915250**

EMSL Sample Number:	042502129-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): 0.0008 **Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0008 **Customer Sample:** MFL-AM09-012825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J3	None Detected									
E1	I4	None Detected									
E2	H7	None Detected									
E2	G8	None Detected									
E3	J9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	Maui Fires

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Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-012825-AB** **Sample Description: DL915222**

EMSL Sample Number:	042502129-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0009 **Customer Sample:** MFL-AM08-012825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	H8	None Detected									
E5	I9	None Detected									
E6	A7	None Detected									
E6	B6	None Detected									
E7	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012825-AB** **Sample Description: DL915236**

EMSL Sample Number:	042502129-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0010 **Customer Sample:** MFL-FB01-012825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J4	None Detected									
F1	J2	None Detected									
F1	I5	None Detected									
F1	I3	None Detected									
F2	C7	None Detected									
F2	C5	None Detected									
F2	B6	None Detected									
F3	G5	None Detected									
F3	F6	None Detected									
F3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502129
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Project ID:	Maui Fires

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Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/07/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-012925-AB** **Sample Description: DL915253**

EMSL Sample Number:	042502129-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7172.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0011 **Customer Sample:** MFL-AM05-012925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F6	A7	None Detected									
F6	F4	None Detected									
F6	J8	None Detected									
F7	C6	None Detected									
F7	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/08/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012925-AB** **Sample Description: DL915207**

EMSL Sample Number:	042502129-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0012 **Customer Sample:** MFL-AM02-012925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B3	None Detected									
G1	E7	None Detected									
G1	I5	None Detected									
G2	H8	None Detected									
G2	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502129
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

Attn: Chelsea Saber
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/08/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-012925-AB** **Sample Description: DL915241**

EMSL Sample Number:	042502129-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0013 **Customer Sample:** MFL-AM09-012925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A5	None Detected									
G5	D8	None Detected									
G5	H5	None Detected									
G6	J4	None Detected									
G6	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	Maui Fires

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/08/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-012925-AB** **Sample Description: DL915214**

EMSL Sample Number:	042502129-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7240.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0014 **Customer Sample:** MFL-AM08-012925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H3	A5	None Detected									
H3	E7	None Detected									
H3	J4	None Detected									
H4	B2	None Detected									
H4	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/08/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012925-AB** **Sample Description: DL915251**

EMSL Sample Number:	042502129-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0015 **Customer Sample:** MFL-FB01-012925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A4	None Detected									
H5	C8	None Detected									
H5	E3	None Detected									
H5	G6	None Detected									
H7	B7	None Detected									
H7	F7	None Detected									
H7	H8	None Detected									
H8	A5	None Detected									
H8	D8	None Detected									
H8	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502129
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Customer PO:	1207085
Project ID:	Maui Fires

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/03/2025 12:30 PM
Analysis Date:	02/06/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description: Lab Blank**

EMSL Sample Number:	042502129-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502129
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502129-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I4	None Detected									
A1	G7	None Detected									
A1	D4	None Detected									
A1	B8	None Detected									
A2	I8	None Detected									
A2	E3	None Detected									
A2	B6	None Detected									
A3	A8	None Detected									
A3	E8	None Detected									
A3	J8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502129

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

RECEIVED EMSL CINNAMINSON, NJ 2025 FEB -3 P 12:37

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-012725-AB	DL915229	7,186.053	01/27/25 1051
MFL-AM02-012725-AB	DL915225	7,200.479	01/27/25 1104
MFL-AM09-012725-AB	DL915206	7,248.816	01/27/25 1255
MFL-AM08-012725-AB	DL915211	7,237.542	01/27/25 1311
MFL-FB01-012725-AB	DL915197	0	01/27/25 1200
MFL-AM05-012825-AB	DL915224	7,309.872	01/28/25 1054
MFL-AM02-012825-AB	DL915217	7,164.000	01/28/25 1108
MFL-AM09-012825-AB	DL915250	7,199.192	01/28/25 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 01/30/25 1100	Received by: PZ Date/Time: 2/3/25 1230p
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/20/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

1577

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502129

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-012825-AB	DL915222	7,194.808	01/28/25 1309
MFL-FB01-012825-AB	DL915236	0	01/28/25 1200
MFL-AM05-012925-AB	DL915253	7,172,676	01/29/25 1056
MFL-AM02-012925-AB	DL915207	7,207.113	01/29/25 1112
MFL-AM09-012925-AB	DL915241	7,230.266	01/29/25 1252
MFL-AM08-012925-AB	DL915214	7,240.553	01/29/25 1306
MFL-FB01-012925-AB	DL915251	0	01/29/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2025 FEB -3 P 12:31

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: Sherina Epstein	Date/Time: 01/30/25 1100	Received by: FX	Date/Time: 02/3/25 1233
Relinquished by:	Date/Time:	Received by:	Date/Time

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/12/2025 and Shanna Vasser 2/13/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/27/2025 – 01/29/2025
Report No: 42502129

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

February 11, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 02/03/25 10:38.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-012325-HM	5020334-01	Air	01/23/25 23:59	02/03/25 10:38
MFL-AM02-012325-HM	5020334-02	Air	01/23/25 23:59	02/03/25 10:38
MFL-AM09-012325-HM	5020334-03	Air	01/23/25 23:59	02/03/25 10:38
MFL-AM08-012325-HM	5020334-04	Air	01/23/25 23:59	02/03/25 10:38
MFL-AM05-012425-HM	5020334-05	Air	01/24/25 23:59	02/03/25 10:38
MFL-AM02-012425-HM	5020334-06	Air	01/24/25 23:59	02/03/25 10:38
MFL-AM09-012425-HM	5020334-07	Air	01/24/25 23:59	02/03/25 10:38
MFL-AM08-012425-HM	5020334-08	Air	01/24/25 23:59	02/03/25 10:38
MFL-FB01-012425-HM	5020334-09	Air	01/24/25 00:00	02/03/25 10:38
MFL-AM05-012525-HM	5020334-10	Air	01/25/25 23:59	02/03/25 10:38
MFL-AM02-012525-HM	5020334-11	Air	01/25/25 23:59	02/03/25 10:38
MFL-AM09-012525-HM	5020334-12	Air	01/25/25 23:59	02/03/25 10:38
MFL-AM08-012525-HM	5020334-13	Air	01/25/25 23:59	02/03/25 10:38
MFL-AM05-012625-HM	5020334-14	Air	01/26/25 23:59	02/03/25 10:38
MFL-AM02-012625-HM	5020334-15	Air	01/26/25 23:59	02/03/25 10:38
MFL-AM09-012625-HM	5020334-16	Air	01/26/25 23:59	02/03/25 10:38
MFL-AM08-012625-HM	5020334-17	Air	01/26/25 23:59	02/03/25 10:38
MFL-FB01-012625-HM	5020334-18	Air	01/26/25 00:00	02/03/25 10:38
MFL-AM05-012725-HM	5020334-19	Air	01/27/25 23:59	02/03/25 10:38
MFL-AM02-012725-HM	5020334-20	Air	01/27/25 23:59	02/03/25 10:38
MFL-AM09-012725-HM	5020334-21	Air	01/27/25 23:59	02/03/25 10:38

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM08-012725-HM	5020334-22	Air	01/27/25 23:59	02/03/25 10:38
MFL-AM05-012825-HM	5020334-23	Air	01/28/25 23:59	02/03/25 10:38
MFL-AM02-012825-HM	5020334-24	Air	01/28/25 23:59	02/03/25 10:38
MFL-AM09-012825-HM	5020334-25	Air	01/28/25 23:59	02/03/25 10:38
MFL-AM08-012825-HM	5020334-26	Air	01/28/25 23:59	02/03/25 10:38
MFL-FB01-012825-HM	5020334-27	Air	01/28/25 00:00	02/03/25 10:38
MFL-AM05-012925-HM	5020334-28	Air	01/29/25 23:59	02/03/25 10:38
MFL-AM02-012925-HM	5020334-29	Air	01/29/25 23:59	02/03/25 10:38
MFL-AM09-012925-HM	5020334-30	Air	01/29/25 23:59	02/03/25 10:38
MFL-AM08-012925-HM	5020334-31	Air	01/29/25 23:59	02/03/25 10:38

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012325-HM **Lab ID:** 5020334-01 **Sampled:** 01/23/25 23:59
Matrix: Air **Sample Volume:** 2016.137 m³ **Received:** 02/03/25 10:38
Filter ID: **Analysis Date:** 02/04/25 16:51

Comments: Q8525991 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.142**		**0.00717**
Barium	**7440-39-3**	**3.91**		**1.24**
Beryllium	**7440-41-7**	**0.00467**		**0.00153**
Cadmium	**7440-43-9**	**0.0112**		**0.00413**
Chromium	7440-47-3	1.45	U	1.97
Cobalt	**7440-48-4**	**0.145**		**0.0420**
Copper	**7440-50-8**	**77.2**	QM-07	**0.607**
Lead	**7439-92-1**	**0.342**		**0.108**
Manganese	**7439-96-5**	**4.33**		**0.449**
Molybdenum	**7439-98-7**	**2.92**		**0.318**
Nickel	**7440-02-0**	**0.917**		**0.596**
Selenium	**7782-49-2**	**0.230**		**0.00815**
Thallium	7440-28-0	6.28E-4	U	6.95E-4
Vanadium	**7440-62-2**	**0.595**		**0.0370**
Zinc	7440-66-6	11.8	U	92.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012325-HM
Matrix: Air
Lab ID: 5020334-02
Sample Volume: 2065.536 m³
Filter ID:
Sampled: 01/23/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 22:48

Comments: Q8525990 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.236**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.181**		**0.00700**
Barium	**7440-39-3**	**3.30**		**1.21**
Beryllium	**7440-41-7**	**0.00344**		**0.00150**
Cadmium	**7440-43-9**	**0.0106**		**0.00403**
Chromium	7440-47-3	1.31	U	1.92
Cobalt	**7440-48-4**	**0.0939**		**0.0410**
Copper	**7440-50-8**	**64.9**		**0.592**
Lead	**7439-92-1**	**0.366**		**0.106**
Manganese	**7439-96-5**	**2.84**		**0.439**
Molybdenum	**7439-98-7**	**2.53**		**0.310**
Nickel	**7440-02-0**	**0.795**		**0.582**
Selenium	**7782-49-2**	**0.235**		**0.00796**
Thallium	**7440-28-0**	**7.04E-4**		**6.78E-4**
Vanadium	**7440-62-2**	**0.460**		**0.0361**
Zinc	7440-66-6	10.1	U	89.8

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012325-HM
Matrix: Air
Lab ID: 5020334-03
Sample Volume: 2032.643 m³
Filter ID:
Sampled: 01/23/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 23:01

Comments: Q8525989 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.202**		**0.00712**
Barium	**7440-39-3**	**3.04**		**1.23**
Beryllium	**7440-41-7**	**0.00316**		**0.00152**
Cadmium	**7440-43-9**	**0.0427**		**0.00410**
Chromium	7440-47-3	1.18	U	1.95
Cobalt	**7440-48-4**	**0.103**		**0.0416**
Copper	**7440-50-8**	**25.5**		**0.602**
Lead	**7439-92-1**	**0.367**		**0.107**
Manganese	**7439-96-5**	**3.39**		**0.446**
Molybdenum	**7439-98-7**	**1.45**		**0.315**
Nickel	**7440-02-0**	**0.747**		**0.592**
Selenium	**7782-49-2**	**0.243**		**0.00808**
Thallium	7440-28-0	5.61E-4	U	6.89E-4
Vanadium	**7440-62-2**	**0.455**		**0.0367**
Zinc	7440-66-6	9.33	U	91.2

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012325-HM **Lab ID:** 5020334-04 **Sampled:** 01/23/25 23:59
Matrix: Air **Sample Volume:** 1907.155 m³ **Received:** 02/03/25 10:38
Filter ID: **Analysis Date:** 02/04/25 23:15

Comments: Q8525985 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.187**		**0.00758**
Barium	**7440-39-3**	**2.57**		**1.31**
Beryllium	**7440-41-7**	**0.00280**		**0.00162**
Cadmium	**7440-43-9**	**0.0316**		**0.00437**
Chromium	7440-47-3	1.16	U	2.08
Cobalt	**7440-48-4**	**0.128**		**0.0444**
Copper	**7440-50-8**	**37.2**		**0.642**
Lead	**7439-92-1**	**0.415**		**0.114**
Manganese	**7439-96-5**	**3.14**		**0.475**
Molybdenum	**7439-98-7**	**2.00**		**0.336**
Nickel	**7440-02-0**	**1.85**		**0.630**
Selenium	**7782-49-2**	**0.223**		**0.00862**
Thallium	7440-28-0	5.29E-4	U	7.35E-4
Vanadium	**7440-62-2**	**0.384**		**0.0391**
Zinc	7440-66-6	13.6	U	97.3

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012425-HM
Matrix: Air
Lab ID: 5020334-05
Sample Volume: 2000.205 m³
Filter ID:
Sampled: 01/24/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 23:28

Comments: Q8525984 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.265**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.198**		**0.00723**
Barium	**7440-39-3**	**7.17**		**1.25**
Beryllium	**7440-41-7**	**0.0110**		**0.00155**
Cadmium	**7440-43-9**	**0.0174**		**0.00416**
Chromium	**7440-47-3**	**2.25**		**1.98**
Cobalt	**7440-48-4**	**0.392**		**0.0423**
Copper	**7440-50-8**	**93.0**		**0.612**
Lead	**7439-92-1**	**0.481**		**0.109**
Manganese	**7439-96-5**	**10.2**		**0.453**
Molybdenum	**7439-98-7**	**3.25**		**0.320**
Nickel	**7440-02-0**	**1.60**		**0.601**
Selenium	**7782-49-2**	**0.341**		**0.00822**
Thallium	**7440-28-0**	**0.00132**		**7.00E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0373**
Zinc	7440-66-6	21.2	U	92.7

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012425-HM
Matrix: Air
Lab ID: 5020334-06
Sample Volume: 2102.086 m³
Filter ID:
Sampled: 01/24/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 23:41

Comments: Q8525982 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.397**	SL	**0.0271**
Arsenic	**7440-38-2**	**0.365**		**0.00688**
Barium	**7440-39-3**	**9.06**		**1.19**
Beryllium	**7440-41-7**	**0.0171**		**0.00147**
Cadmium	**7440-43-9**	**0.0200**		**0.00396**
Chromium	**7440-47-3**	**2.47**		**1.89**
Cobalt	**7440-48-4**	**0.489**		**0.0402**
Copper	**7440-50-8**	**65.3**		**0.582**
Lead	**7439-92-1**	**1.15**		**0.104**
Manganese	**7439-96-5**	**13.9**		**0.431**
Molybdenum	**7439-98-7**	**2.84**		**0.305**
Nickel	**7440-02-0**	**1.78**		**0.572**
Selenium	**7782-49-2**	**0.368**		**0.00782**
Thallium	**7440-28-0**	**0.00152**		**6.66E-4**
Vanadium	**7440-62-2**	**1.91**		**0.0354**
Zinc	7440-66-6	24.8	U	88.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012425-HM
Matrix: Air
Lab ID: 5020334-07
Sample Volume: 2020.548 m³
Filter ID:
Sampled: 01/24/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 23:55

Comments: Q8525981 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.203**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.404**		**0.00716**
Barium	**7440-39-3**	**8.52**		**1.24**
Beryllium	**7440-41-7**	**0.00786**		**0.00153**
Cadmium	**7440-43-9**	**0.0299**		**0.00412**
Chromium	7440-47-3	1.74	U	1.96
Cobalt	**7440-48-4**	**0.273**		**0.0419**
Copper	**7440-50-8**	**33.5**		**0.606**
Lead	**7439-92-1**	**0.502**		**0.108**
Manganese	**7439-96-5**	**6.75**		**0.449**
Molybdenum	**7439-98-7**	**1.96**		**0.317**
Nickel	**7440-02-0**	**1.18**		**0.595**
Selenium	**7782-49-2**	**0.378**		**0.00813**
Thallium	**7440-28-0**	**0.00125**		**6.93E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0369**
Zinc	7440-66-6	14.2	U	91.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012425-HM
Matrix: Air
Lab ID: 5020334-08
Sample Volume: 1941.507 m³
Filter ID:
Sampled: 01/24/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 00:08

Comments: Q8525980 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.187**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.235**		**0.00745**
Barium	**7440-39-3**	**3.86**		**1.29**
Beryllium	**7440-41-7**	**0.00425**		**0.00159**
Cadmium	**7440-43-9**	**0.0171**		**0.00429**
Chromium	7440-47-3	1.37	U	2.04
Cobalt	**7440-48-4**	**0.131**		**0.0436**
Copper	**7440-50-8**	**52.1**		**0.630**
Lead	**7439-92-1**	**0.581**		**0.112**
Manganese	**7439-96-5**	**3.89**		**0.467**
Molybdenum	**7439-98-7**	**2.01**		**0.330**
Nickel	**7440-02-0**	**0.887**		**0.619**
Selenium	**7782-49-2**	**0.273**		**0.00846**
Thallium	**7440-28-0**	**0.00105**		**7.22E-4**
Vanadium	**7440-62-2**	**0.691**		**0.0384**
Zinc	7440-66-6	11.6	U	95.5

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012425-HM
Matrix: Air
Lab ID: 5020334-09
Sample Volume: 2000.205 m³
Filter ID:
Sampled: 01/24/25 00:00
Received: 02/03/25 10:38
Analysis Date: 02/05/25 00:21

Comments: Q8525970 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0196	SL, U	0.0285
Arsenic	7440-38-2	0.00253	U	0.00723
Barium	7440-39-3	0.929	U	1.25
Beryllium	7440-41-7	2.66E-4	U	0.00155
Cadmium	7440-43-9	7.00E-4	U	0.00416
Chromium	7440-47-3	0.779	U	1.98
Cobalt	7440-48-4	0.00824	U	0.0423
Copper	7440-50-8	0.590	U	0.612
Lead	7439-92-1	0.0271	U	0.109
Manganese	7439-96-5	0.113	U	0.453
Molybdenum	7439-98-7	0.173	U	0.320
Nickel	7440-02-0	0.360	U	0.601
Selenium	7782-49-2	0.00229	U	0.00822
Thallium	7440-28-0	6.39E-5	U	7.00E-4
Vanadium	7440-62-2	0.0291	U	0.0373
Zinc	7440-66-6	3.89	U	92.7

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012525-HM
Matrix: Air
Lab ID: 5020334-10
Sample Volume: 1989.316 m³
Filter ID:
Sampled: 01/25/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 00:34

Comments: Q8525977 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.220**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.257**		**0.00727**
Barium	**7440-39-3**	**6.35**		**1.26**
Beryllium	**7440-41-7**	**0.0150**		**0.00155**
Cadmium	**7440-43-9**	**0.0291**		**0.00419**
Chromium	**7440-47-3**	**2.44**		**2.00**
Cobalt	**7440-48-4**	**0.522**		**0.0425**
Copper	**7440-50-8**	**131**		**0.615**
Lead	**7439-92-1**	**0.485**		**0.110**
Manganese	**7439-96-5**	**15.2**		**0.456**
Molybdenum	**7439-98-7**	**3.55**		**0.322**
Nickel	**7440-02-0**	**1.52**		**0.604**
Selenium	**7782-49-2**	**0.342**		**0.00826**
Thallium	**7440-28-0**	**0.00301**		**7.04E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0375**
Zinc	7440-66-6	17.8	U	93.2

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012525-HM
Matrix: Air
Lab ID: 5020334-11
Sample Volume: 2070.752 m³
Filter ID:
Sampled: 01/25/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 01:33

Comments: Q8525976 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.398**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.318**		**0.00698**
Barium	**7440-39-3**	**8.87**		**1.21**
Beryllium	**7440-41-7**	**0.0183**		**0.00149**
Cadmium	**7440-43-9**	**0.0367**		**0.00402**
Chromium	**7440-47-3**	**2.48**		**1.92**
Cobalt	**7440-48-4**	**0.470**		**0.0409**
Copper	**7440-50-8**	**62.7**		**0.591**
Lead	**7439-92-1**	**1.33**		**0.105**
Manganese	**7439-96-5**	**15.2**		**0.438**
Molybdenum	**7439-98-7**	**2.54**		**0.310**
Nickel	**7440-02-0**	**1.74**		**0.581**
Selenium	**7782-49-2**	**0.385**		**0.00794**
Thallium	**7440-28-0**	**0.00336**		**6.76E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0360**
Zinc	7440-66-6	28.6	U	89.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012525-HM
Matrix: Air
Lab ID: 5020334-12
Sample Volume: 2023.253 m³
Filter ID:
Sampled: 01/25/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 02:01

Comments: Q8525975 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.165**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.253**		**0.00715**
Barium	**7440-39-3**	**4.11**		**1.24**
Beryllium	**7440-41-7**	**0.00810**		**0.00153**
Cadmium	**7440-43-9**	**0.0331**		**0.00412**
Chromium	7440-47-3	1.69	U	1.96
Cobalt	**7440-48-4**	**0.287**		**0.0418**
Copper	**7440-50-8**	**30.8**		**0.605**
Lead	**7439-92-1**	**0.508**		**0.108**
Manganese	**7439-96-5**	**8.32**		**0.448**
Molybdenum	**7439-98-7**	**1.75**		**0.317**
Nickel	**7440-02-0**	**0.978**		**0.594**
Selenium	**7782-49-2**	**0.335**		**0.00812**
Thallium	**7440-28-0**	**0.00300**		**6.92E-4**
Vanadium	**7440-62-2**	**0.836**		**0.0368**
Zinc	7440-66-6	13.0	U	91.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012525-HM
Matrix: Air
Lab ID: 5020334-13
Sample Volume: 1731.736 m³
Filter ID:
Sampled: 01/25/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 02:15

Comments: Q8525973 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.200**		**0.00835**
Barium	**7440-39-3**	**3.90**		**1.45**
Beryllium	**7440-41-7**	**0.00519**		**0.00179**
Cadmium	**7440-43-9**	**0.0246**		**0.00481**
Chromium	7440-47-3	1.79	U	2.29
Cobalt	**7440-48-4**	**0.170**		**0.0489**
Copper	**7440-50-8**	**51.1**		**0.707**
Lead	**7439-92-1**	**0.314**		**0.126**
Manganese	**7439-96-5**	**5.06**		**0.523**
Molybdenum	**7439-98-7**	**1.65**		**0.370**
Nickel	**7440-02-0**	**0.811**		**0.694**
Selenium	**7782-49-2**	**0.301**		**0.00949**
Thallium	**7440-28-0**	**0.00261**		**8.09E-4**
Vanadium	**7440-62-2**	**0.552**		**0.0430**
Zinc	7440-66-6	10.3	U	107

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012625-HM
Matrix: Air
Lab ID: 5020334-14
Sample Volume: 1979.549 m³
Filter ID:
Sampled: 01/26/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 02:28

Comments: Q8525964 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.219**		**0.00731**
Barium	**7440-39-3**	**4.70**		**1.27**
Beryllium	**7440-41-7**	**0.0128**		**0.00156**
Cadmium	**7440-43-9**	**0.0248**		**0.00421**
Chromium	7440-47-3	1.86	U	2.01
Cobalt	**7440-48-4**	**0.361**		**0.0427**
Copper	**7440-50-8**	**112**		**0.618**
Lead	**7439-92-1**	**0.384**		**0.110**
Manganese	**7439-96-5**	**12.8**		**0.458**
Molybdenum	**7439-98-7**	**2.80**		**0.324**
Nickel	**7440-02-0**	**1.02**		**0.607**
Selenium	**7782-49-2**	**0.216**		**0.00830**
Thallium	**7440-28-0**	**0.00148**		**7.08E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0376**
Zinc	7440-66-6	11.6	U	93.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012625-HM
Matrix: Air
Lab ID: 5020334-15
Sample Volume: 2127.043 m³
Filter ID:
Sampled: 01/26/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 02:41

Comments: Q8525962 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.225**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.144**		**0.00680**
Barium	**7440-39-3**	**4.64**		**1.18**
Beryllium	**7440-41-7**	**0.00635**		**0.00145**
Cadmium	**7440-43-9**	**0.115**		**0.00392**
Chromium	7440-47-3	1.30	U	1.87
Cobalt	**7440-48-4**	**0.177**		**0.0398**
Copper	**7440-50-8**	**65.1**		**0.575**
Lead	**7439-92-1**	**0.344**		**0.102**
Manganese	**7439-96-5**	**5.34**		**0.426**
Molybdenum	**7439-98-7**	**2.23**		**0.301**
Nickel	**7440-02-0**	**0.824**		**0.565**
Selenium	**7782-49-2**	**0.187**		**0.00773**
Thallium	**7440-28-0**	**0.00151**		**6.59E-4**
Vanadium	**7440-62-2**	**0.632**		**0.0350**
Zinc	7440-66-6	12.4	U	87.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012625-HM
Matrix: Air
Lab ID: 5020334-16
Sample Volume: 2028.916 m³
Filter ID:
Sampled: 01/26/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 02:54

Comments: Q8525961 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0889**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.159**		**0.00713**
Barium	**7440-39-3**	**2.94**		**1.23**
Beryllium	**7440-41-7**	**0.00326**		**0.00152**
Cadmium	**7440-43-9**	**0.0193**		**0.00411**
Chromium	7440-47-3	1.06	U	1.96
Cobalt	**7440-48-4**	**0.0931**		**0.0417**
Copper	**7440-50-8**	**43.7**		**0.603**
Lead	**7439-92-1**	**0.250**		**0.107**
Manganese	**7439-96-5**	**2.97**		**0.447**
Molybdenum	**7439-98-7**	**1.86**		**0.316**
Nickel	**7440-02-0**	**0.609**		**0.593**
Selenium	**7782-49-2**	**0.163**		**0.00810**
Thallium	**7440-28-0**	**7.55E-4**		**6.90E-4**
Vanadium	**7440-62-2**	**0.374**		**0.0367**
Zinc	7440-66-6	8.40	U	91.4

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012625-HM
Matrix: Air
Lab ID: 5020334-17
Sample Volume: 1921.359 m³
Filter ID:
Sampled: 01/26/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 03:08

Comments: Q8525959 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.225**		**0.00753**
Barium	**7440-39-3**	**2.45**		**1.30**
Beryllium	**7440-41-7**	**0.00363**		**0.00161**
Cadmium	**7440-43-9**	**0.00987**		**0.00434**
Chromium	7440-47-3	1.81	U	2.07
Cobalt	**7440-48-4**	**0.120**		**0.0440**
Copper	**7440-50-8**	**63.9**		**0.637**
Lead	**7439-92-1**	**0.196**		**0.113**
Manganese	**7439-96-5**	**3.97**		**0.472**
Molybdenum	**7439-98-7**	**2.01**		**0.334**
Nickel	7440-02-0	0.609	U	0.626
Selenium	**7782-49-2**	**0.154**		**0.00855**
Thallium	7440-28-0	6.99E-4	U	7.29E-4
Vanadium	**7440-62-2**	**0.457**		**0.0388**
Zinc	7440-66-6	10.1	U	96.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012625-HM
Matrix: Air
Lab ID: 5020334-18
Sample Volume: 1979.549 m³
Filter ID:
Sampled: 01/26/25 00:00
Received: 02/03/25 10:38
Analysis Date: 02/05/25 03:21

Comments: Q8525958 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0194	SL, U	0.0288
Arsenic	7440-38-2	0.00281	U	0.00731
Barium	7440-39-3	1.03	U	1.27
Beryllium	7440-41-7	2.58E-4	U	0.00156
Cadmium	7440-43-9	0.00103	U	0.00421
Chromium	7440-47-3	0.846	U	2.01
Cobalt	7440-48-4	0.00961	U	0.0427
Copper	7440-50-8	0.246	U	0.618
Lead	7439-92-1	0.0214	U	0.110
Manganese	7439-96-5	0.119	U	0.458
Molybdenum	7439-98-7	0.141	U	0.324
Nickel	7440-02-0	0.384	U	0.607
Selenium	7782-49-2	0.00176	U	0.00830
Thallium	7440-28-0	5.47E-5	U	7.08E-4
Vanadium	7440-62-2	0.0299	U	0.0376
Zinc	7440-66-6	3.66	U	93.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012725-HM
Matrix: Air
Lab ID: 5020334-19
Sample Volume: 1972.104 m³
Filter ID:
Sampled: 01/27/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 03:34

Comments: Q8525954 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.125**		**0.00733**
Barium	**7440-39-3**	**3.27**		**1.27**
Beryllium	**7440-41-7**	**0.00480**		**0.00157**
Cadmium	**7440-43-9**	**0.00915**		**0.00422**
Chromium	7440-47-3	1.42	U	2.01
Cobalt	**7440-48-4**	**0.162**		**0.0429**
Copper	**7440-50-8**	**84.9**		**0.620**
Lead	**7439-92-1**	**0.195**		**0.111**
Manganese	**7439-96-5**	**4.76**		**0.460**
Molybdenum	**7439-98-7**	**2.70**		**0.325**
Nickel	**7440-02-0**	**0.912**		**0.610**
Selenium	**7782-49-2**	**0.137**		**0.00833**
Thallium	7440-28-0	5.60E-4	U	7.10E-4
Vanadium	**7440-62-2**	**0.572**		**0.0378**
Zinc	7440-66-6	12.1	U	94.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012725-HM
Matrix: Air
Lab ID: 5020334-20
Sample Volume: 2121.69 m³
Filter ID:
Sampled: 01/27/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 04:33

Comments: Q8525953 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.246**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.161**		**0.00682**
Barium	**7440-39-3**	**3.99**		**1.18**
Beryllium	**7440-41-7**	**0.00487**		**0.00146**
Cadmium	**7440-43-9**	**0.0109**		**0.00393**
Chromium	7440-47-3	1.43	U	1.87
Cobalt	**7440-48-4**	**0.144**		**0.0399**
Copper	**7440-50-8**	**69.3**		**0.577**
Lead	**7439-92-1**	**0.374**		**0.103**
Manganese	**7439-96-5**	**4.47**		**0.427**
Molybdenum	**7439-98-7**	**2.41**		**0.302**
Nickel	**7440-02-0**	**0.962**		**0.567**
Selenium	**7782-49-2**	**0.157**		**0.00775**
Thallium	**7440-28-0**	**7.54E-4**		**6.60E-4**
Vanadium	**7440-62-2**	**0.541**		**0.0351**
Zinc	7440-66-6	10.1	U	87.4

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012725-HM
Matrix: Air
Lab ID: 5020334-21
Sample Volume: 1985.704 m³
Filter ID:
Sampled: 01/27/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/04/25 20:23

Comments: Q8525952 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.212**		**0.00728**
Barium	**7440-39-3**	**2.90**		**1.26**
Beryllium	**7440-41-7**	**0.00424**		**0.00156**
Cadmium	**7440-43-9**	**0.0116**		**0.00420**
Chromium	7440-47-3	1.38	U	2.00
Cobalt	**7440-48-4**	**0.140**		**0.0426**
Copper	**7440-50-8**	**33.1**		**0.616**
Lead	**7439-92-1**	**0.302**		**0.110**
Manganese	**7439-96-5**	**4.20**		**0.456**
Molybdenum	**7439-98-7**	**1.74**		**0.323**
Nickel	**7440-02-0**	**0.842**		**0.606**
Selenium	**7782-49-2**	**0.137**		**0.00828**
Thallium	7440-28-0	5.53E-4	U	7.05E-4
Vanadium	**7440-62-2**	**0.445**		**0.0375**
Zinc	7440-66-6	9.14	U	93.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012725-HM
Matrix: Air
Lab ID: 5020334-22
Sample Volume: 1938.312 m³
Filter ID:
Sampled: 01/27/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 04:46

Comments: Q8525950 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.223**		**0.00746**
Barium	**7440-39-3**	**2.31**		**1.29**
Beryllium	**7440-41-7**	**0.00312**		**0.00159**
Cadmium	**7440-43-9**	**0.0133**		**0.00430**
Chromium	7440-47-3	1.31	U	2.05
Cobalt	**7440-48-4**	**0.122**		**0.0436**
Copper	**7440-50-8**	**35.7**		**0.631**
Lead	**7439-92-1**	**0.245**		**0.112**
Manganese	**7439-96-5**	**3.57**		**0.468**
Molybdenum	**7439-98-7**	**1.57**		**0.331**
Nickel	**7440-02-0**	**0.752**		**0.620**
Selenium	**7782-49-2**	**0.131**		**0.00848**
Thallium	7440-28-0	4.98E-4	U	7.23E-4
Vanadium	**7440-62-2**	**0.376**		**0.0384**
Zinc	7440-66-6	8.24	U	95.7

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012825-HM
Matrix: Air
Lab ID: 5020334-23
Sample Volume: 2019.629 m³
Filter ID:
Sampled: 01/28/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 04:59

Comments: Q8525948 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.216**		**0.00716**
Barium	**7440-39-3**	**5.36**		**1.24**
Beryllium	**7440-41-7**	**0.0135**		**0.00153**
Cadmium	**7440-43-9**	**0.0189**		**0.00412**
Chromium	**7440-47-3**	**2.95**		**1.97**
Cobalt	**7440-48-4**	**0.542**		**0.0419**
Copper	**7440-50-8**	**91.0**		**0.606**
Lead	**7439-92-1**	**0.328**		**0.108**
Manganese	**7439-96-5**	**13.7**		**0.449**
Molybdenum	**7439-98-7**	**2.48**		**0.317**
Nickel	**7440-02-0**	**2.12**		**0.595**
Selenium	**7782-49-2**	**0.120**		**0.00814**
Thallium	**7440-28-0**	**9.63E-4**		**6.94E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0369**
Zinc	7440-66-6	16.1	U	91.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012825-HM
Matrix: Air
Lab ID: 5020334-24
Sample Volume: 2152.025 m³
Filter ID:
Sampled: 01/28/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 05:13

Comments: Q8525947 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.147**	SL	**0.0265**
Arsenic	**7440-38-2**	**0.266**		**0.00672**
Barium	**7440-39-3**	**5.23**		**1.16**
Beryllium	**7440-41-7**	**0.0147**		**0.00144**
Cadmium	**7440-43-9**	**0.0162**		**0.00387**
Chromium	**7440-47-3**	**2.15**		**1.84**
Cobalt	**7440-48-4**	**0.420**		**0.0393**
Copper	**7440-50-8**	**64.1**		**0.569**
Lead	**7439-92-1**	**1.23**		**0.101**
Manganese	**7439-96-5**	**13.1**		**0.421**
Molybdenum	**7439-98-7**	**2.50**		**0.298**
Nickel	**7440-02-0**	**1.45**		**0.559**
Selenium	**7782-49-2**	**0.129**		**0.00764**
Thallium	**7440-28-0**	**7.73E-4**		**6.51E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0346**
Zinc	7440-66-6	24.4	U	86.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012825-HM
Matrix: Air
Lab ID: 5020334-25
Sample Volume: 1930.336 m³
Filter ID:
Sampled: 01/28/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 05:26

Comments: Q8525946 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0846**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.217**		**0.00749**
Barium	**7440-39-3**	**3.58**		**1.30**
Beryllium	**7440-41-7**	**0.00869**		**0.00160**
Cadmium	**7440-43-9**	**0.0207**		**0.00432**
Chromium	**7440-47-3**	**2.17**		**2.06**
Cobalt	**7440-48-4**	**0.486**		**0.0438**
Copper	**7440-50-8**	**26.7**		**0.634**
Lead	**7439-92-1**	**0.509**		**0.113**
Manganese	**7439-96-5**	**9.74**		**0.469**
Molybdenum	**7439-98-7**	**1.56**		**0.332**
Nickel	**7440-02-0**	**6.22**		**0.623**
Selenium	**7782-49-2**	**0.0937**		**0.00851**
Thallium	7440-28-0	6.26E-4	U	7.26E-4
Vanadium	**7440-62-2**	**1.05**		**0.0386**
Zinc	7440-66-6	14.9	U	96.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012825-HM
Matrix: Air
Lab ID: 5020334-26
Sample Volume: 1781.463 m³
Filter ID:
Sampled: 01/28/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 05:39

Comments: Q8525945 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0996**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.244**		**0.00812**
Barium	**7440-39-3**	**2.91**		**1.41**
Beryllium	**7440-41-7**	**0.00972**		**0.00174**
Cadmium	**7440-43-9**	**0.678**		**0.00468**
Chromium	7440-47-3	2.04	U	2.23
Cobalt	**7440-48-4**	**0.288**		**0.0475**
Copper	**7440-50-8**	**30.2**		**0.687**
Lead	**7439-92-1**	**0.342**		**0.122**
Manganese	**7439-96-5**	**7.77**		**0.509**
Molybdenum	**7439-98-7**	**1.07**		**0.360**
Nickel	**7440-02-0**	**1.27**		**0.675**
Selenium	**7782-49-2**	**0.0918**		**0.00922**
Thallium	**7440-28-0**	**0.00402**		**7.86E-4**
Vanadium	**7440-62-2**	**0.802**		**0.0418**
Zinc	7440-66-6	10.3	U	104

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012825-HM
Matrix: Air
Lab ID: 5020334-27
Sample Volume: 2019.629 m³
Filter ID:
Sampled: 01/28/25 00:00
Received: 02/03/25 10:38
Analysis Date: 02/05/25 05:53

Comments: Q8525943 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0203	SL, U	0.0282
Arsenic	7440-38-2	0.00192	U	0.00716
Barium	7440-39-3	0.947	U	1.24
Beryllium	7440-41-7	2.10E-4	U	0.00153
Cadmium	7440-43-9	0.00118	U	0.00412
Chromium	7440-47-3	0.762	U	1.97
Cobalt	7440-48-4	0.00996	U	0.0419
Copper	7440-50-8	0.361	U	0.606
Lead	7439-92-1	0.0232	U	0.108
Manganese	7439-96-5	0.137	U	0.449
Molybdenum	7439-98-7	0.129	U	0.317
Nickel	7440-02-0	0.362	U	0.595
Selenium	7782-49-2	0.00185	U	0.00814
Thallium	7440-28-0	5.83E-5	U	6.94E-4
Vanadium	7440-62-2	0.0258	U	0.0369
Zinc	7440-66-6	3.27	U	91.8

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-012925-HM
Matrix: Air
Lab ID: 5020334-28
Sample Volume: 1990.393 m³
Filter ID:
Sampled: 01/29/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 06:06

Comments: Q8525944 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.211**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.210**		**0.00727**
Barium	**7440-39-3**	**5.45**		**1.26**
Beryllium	**7440-41-7**	**0.0134**		**0.00155**
Cadmium	**7440-43-9**	**0.0143**		**0.00419**
Chromium	**7440-47-3**	**2.56**		**1.99**
Cobalt	**7440-48-4**	**0.538**		**0.0425**
Copper	**7440-50-8**	**86.9**		**0.615**
Lead	**7439-92-1**	**0.354**		**0.110**
Manganese	**7439-96-5**	**13.7**		**0.455**
Molybdenum	**7439-98-7**	**2.86**		**0.322**
Nickel	**7440-02-0**	**1.78**		**0.604**
Selenium	**7782-49-2**	**0.196**		**0.00826**
Thallium	**7440-28-0**	**0.00104**		**7.04E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0374**
Zinc	7440-66-6	15.5	U	93.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012925-HM
Matrix: Air
Lab ID: 5020334-29
Sample Volume: 2121.69 m³
Filter ID:
Sampled: 01/29/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 06:19

Comments: Q8525942 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.375**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.252**		**0.00682**
Barium	**7440-39-3**	**8.53**		**1.18**
Beryllium	**7440-41-7**	**0.0182**		**0.00146**
Cadmium	**7440-43-9**	**0.0211**		**0.00393**
Chromium	**7440-47-3**	**2.36**		**1.87**
Cobalt	**7440-48-4**	**0.520**		**0.0399**
Copper	**7440-50-8**	**118**		**0.577**
Lead	**7439-92-1**	**1.09**		**0.103**
Manganese	**7439-96-5**	**15.8**		**0.427**
Molybdenum	**7439-98-7**	**3.97**		**0.302**
Nickel	**7440-02-0**	**1.68**		**0.567**
Selenium	**7782-49-2**	**0.238**		**0.00775**
Thallium	**7440-28-0**	**0.00111**		**6.60E-4**
Vanadium	**7440-62-2**	**1.71**		**0.0351**
Zinc	7440-66-6	26.3	U	87.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-012925-HM
Matrix: Air
Lab ID: 5020334-30
Sample Volume: 1959.182 m³
Filter ID:
Sampled: 01/29/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 06:32

Comments: Q8525941 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.168**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.144**		**0.00738**
Barium	**7440-39-3**	**3.55**		**1.28**
Beryllium	**7440-41-7**	**0.00573**		**0.00158**
Cadmium	**7440-43-9**	**0.0111**		**0.00425**
Chromium	7440-47-3	1.53	U	2.03
Cobalt	**7440-48-4**	**0.181**		**0.0432**
Copper	**7440-50-8**	**38.5**		**0.624**
Lead	**7439-92-1**	**0.409**		**0.111**
Manganese	**7439-96-5**	**5.10**		**0.463**
Molybdenum	**7439-98-7**	**1.92**		**0.327**
Nickel	**7440-02-0**	**0.860**		**0.614**
Selenium	**7782-49-2**	**0.199**		**0.00839**
Thallium	7440-28-0	6.98E-4	U	7.15E-4
Vanadium	**7440-62-2**	**0.614**		**0.0380**
Zinc	7440-66-6	12.4	U	94.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-012925-HM
Matrix: Air
Lab ID: 5020334-31
Sample Volume: 1685.509 m³
Filter ID:
Sampled: 01/29/25 23:59
Received: 02/03/25 10:38
Analysis Date: 02/05/25 07:31

Comments: Q8525940 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.138**		**0.00858**
Barium	**7440-39-3**	**3.03**		**1.49**
Beryllium	**7440-41-7**	**0.00460**		**0.00183**
Cadmium	**7440-43-9**	**0.0107**		**0.00494**
Chromium	7440-47-3	1.67	U	2.36
Cobalt	**7440-48-4**	**0.164**		**0.0502**
Copper	**7440-50-8**	**44.6**		**0.726**
Lead	**7439-92-1**	**0.287**		**0.129**
Manganese	**7439-96-5**	**4.80**		**0.538**
Molybdenum	**7439-98-7**	**1.56**		**0.380**
Nickel	**7440-02-0**	**0.833**		**0.713**
Selenium	**7782-49-2**	**0.146**		**0.00975**
Thallium	7440-28-0	7.87E-4	U	8.31E-4
Vanadium	**7440-62-2**	**0.518**		**0.0442**
Zinc	7440-66-6	9.31	U	110

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Blank (2502006-CCB1)				Prepared & Analyzed: 02/04/25						
Antimony	1.10		ng/l							
Arsenic	0.526		ng/l							
Barium	2.39		ng/l							
Beryllium	-0.346		ng/l							U
Cadmium	0.00198		ng/l							
Chromium	3.72		ng/l							
Cobalt	0.199		ng/l							
Copper	12.0		ng/l							
Lead	3.54		ng/l							
Manganese	2.88		ng/l							
Molybdenum	22.6		ng/l							
Nickel	0.330		ng/l							
Selenium	7.13		ng/l							
Thallium	0.840		ng/l							
Vanadium	24.1		ng/l							
Zinc	-6.58		ng/l							U
Calibration Blank (2502006-CCB2)				Prepared & Analyzed: 02/04/25						
Antimony	0.563		ng/l							
Arsenic	-1.82		ng/l							U
Barium	1.85		ng/l							
Beryllium	-0.711		ng/l							U
Cadmium	0.114		ng/l							
Chromium	3.76		ng/l							
Cobalt	-0.0272		ng/l							U
Copper	8.43		ng/l							
Lead	2.24		ng/l							
Manganese	1.33		ng/l							
Molybdenum	5.06		ng/l							
Nickel	1.05		ng/l							
Selenium	4.07		ng/l							
Thallium	0.795		ng/l							
Vanadium	22.0		ng/l							
Zinc	14.9		ng/l							
Calibration Blank (2502006-CCB3)				Prepared & Analyzed: 02/04/25						
Antimony	0.286		ng/l							
Arsenic	-2.22		ng/l							U
Barium	2.05		ng/l							
Beryllium	-0.680		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Blank (2502006-CCB3) Contin				Prepared & Analyzed: 02/04/25						
Cadmium	0.00583		ng/l							
Chromium	3.34		ng/l							
Cobalt	0.0222		ng/l							
Copper	11.1		ng/l							
Lead	2.88		ng/l							
Manganese	1.37		ng/l							
Molybdenum	7.05		ng/l							
Nickel	5.48		ng/l							
Selenium	-0.193		ng/l							U
Thallium	1.13		ng/l							
Vanadium	11.8		ng/l							
Zinc	-14.0		ng/l							U
Calibration Blank (2502006-CCB4)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	0.455		ng/l							
Arsenic	-5.26		ng/l							U
Barium	2.26		ng/l							
Beryllium	-0.877		ng/l							U
Cadmium	0.0694		ng/l							
Chromium	3.43		ng/l							
Cobalt	0.162		ng/l							
Copper	11.5		ng/l							
Lead	2.28		ng/l							
Manganese	2.00		ng/l							
Molybdenum	6.48		ng/l							
Nickel	1.73		ng/l							
Selenium	15.1		ng/l							
Thallium	1.03		ng/l							
Vanadium	5.14		ng/l							
Zinc	-27.4		ng/l							U
Calibration Blank (2502006-CCB5)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	0.702		ng/l							
Arsenic	0.398		ng/l							
Barium	1.36		ng/l							
Beryllium	-1.28		ng/l							U
Cadmium	-0.00874		ng/l							U
Chromium	2.18		ng/l							
Cobalt	0.0588		ng/l							
Copper	8.81		ng/l							

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REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Blank (2502006-CCB5) Contin				Prepared: 02/04/25 Analyzed: 02/05/25						
Lead	2.01		ng/l							
Manganese	0.912		ng/l							
Molybdenum	7.37		ng/l							
Nickel	3.21		ng/l							
Selenium	-2.82		ng/l							U
Thallium	1.03		ng/l							
Vanadium	4.92		ng/l							
Zinc	-18.8		ng/l							U
Calibration Blank (2502006-CCB6)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	0.745		ng/l							
Arsenic	1.95		ng/l							
Barium	1.87		ng/l							
Beryllium	-1.10		ng/l							U
Cadmium	0.0734		ng/l							
Chromium	2.64		ng/l							
Cobalt	-0.0960		ng/l							U
Copper	8.25		ng/l							
Lead	2.27		ng/l							
Manganese	0.338		ng/l							
Molybdenum	6.41		ng/l							
Nickel	2.42		ng/l							
Selenium	6.88		ng/l							
Thallium	1.18		ng/l							
Vanadium	2.72		ng/l							
Zinc	-19.7		ng/l							U
Calibration Blank (2502006-CCB7)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	0.714		ng/l							
Arsenic	-4.45		ng/l							U
Barium	2.17		ng/l							
Beryllium	-1.30		ng/l							U
Cadmium	0.121		ng/l							
Chromium	2.45		ng/l							
Cobalt	0.189		ng/l							
Copper	7.31		ng/l							
Lead	2.46		ng/l							
Manganese	2.23		ng/l							
Molybdenum	7.40		ng/l							
Nickel	1.69		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Blank (2502006-CCB7) Contin				Prepared: 02/04/25 Analyzed: 02/05/25						
Selenium	-1.17		ng/l							U
Thallium	1.11		ng/l							
Vanadium	-6.15		ng/l							U
Zinc	-7.30		ng/l							U
Calibration Check (2502006-CCV1)				Prepared & Analyzed: 02/04/25						
Antimony	20100		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		99.8	90-110			
Barium	200000		ng/l	200200		100	90-110			
Beryllium	5190		ng/l	5002.5		104	90-110			
Cadmium	20200		ng/l	20014		101	90-110			
Chromium	242000		ng/l	240050		101	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.07E6		ng/l	2.0020E6		103	90-110			
Lead	199000		ng/l	200060		99.7	90-110			
Manganese	492000		ng/l	498900		98.6	90-110			
Molybdenum	50400		ng/l	50005		101	90-110			
Nickel	123000		ng/l	120040		102	90-110			
Selenium	20100		ng/l	20002		101	90-110			
Thallium	487		ng/l	499.95		97.5	90-110			
Vanadium	19900		ng/l	20030		99.4	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2502006-CCV2)				Prepared & Analyzed: 02/04/25						
Antimony	19900		ng/l	20008		99.5	90-110			
Arsenic	19800		ng/l	20004		99.0	90-110			
Barium	197000		ng/l	200200		98.4	90-110			
Beryllium	5140		ng/l	5002.5		103	90-110			
Cadmium	20100		ng/l	20014		100	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	49500		ng/l	50020		98.9	90-110			
Copper	2.04E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	496000		ng/l	498900		99.4	90-110			
Molybdenum	49600		ng/l	50005		99.1	90-110			
Nickel	120000		ng/l	120040		99.9	90-110			
Selenium	19900		ng/l	20002		99.5	90-110			
Thallium	476		ng/l	499.95		95.3	90-110			
Vanadium	20200		ng/l	20030		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Check (2502006-CCV3)				Prepared & Analyzed: 02/04/25						
Antimony	20300		ng/l	20008		101	90-110			
Arsenic	19900		ng/l	20004		99.3	90-110			
Barium	201000		ng/l	200200		100	90-110			
Beryllium	5170		ng/l	5002.5		103	90-110			
Cadmium	20300		ng/l	20014		101	90-110			
Chromium	249000		ng/l	240050		104	90-110			
Cobalt	49700		ng/l	50020		99.4	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	503000		ng/l	498900		101	90-110			
Molybdenum	50200		ng/l	50005		100	90-110			
Nickel	120000		ng/l	120040		99.7	90-110			
Selenium	20300		ng/l	20002		101	90-110			
Thallium	466		ng/l	499.95		93.2	90-110			
Vanadium	20400		ng/l	20030		102	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2502006-CCV4)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	20400		ng/l	20008		102	90-110			
Arsenic	20100		ng/l	20004		101	90-110			
Barium	208000		ng/l	200200		104	90-110			
Beryllium	5220		ng/l	5002.5		104	90-110			
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	254000		ng/l	240050		106	90-110			
Cobalt	50800		ng/l	50020		101	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	511000		ng/l	498900		102	90-110			
Molybdenum	51600		ng/l	50005		103	90-110			
Nickel	123000		ng/l	120040		102	90-110			
Selenium	20300		ng/l	20002		101	90-110			
Thallium	470		ng/l	499.95		94.1	90-110			
Vanadium	20700		ng/l	20030		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2502006-CCV5)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	20500		ng/l	20008		103	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	201000		ng/l	200200		100	90-110			
Beryllium	5310		ng/l	5002.5		106	90-110			

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Check (2502006-CCV5) Contin				Prepared: 02/04/25 Analyzed: 02/05/25						
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	50500		ng/l	50020		101	90-110			
Copper	2.12E6		ng/l	2.0020E6		106	90-110			
Lead	203000		ng/l	200060		102	90-110			
Manganese	505000		ng/l	498900		101	90-110			
Molybdenum	51200		ng/l	50005		102	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	19800		ng/l	20002		99.1	90-110			
Thallium	465		ng/l	499.95		93.0	90-110			
Vanadium	20300		ng/l	20030		102	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2502006-CCV6)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	20900		ng/l	20008		105	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		104	90-110			
Beryllium	5490		ng/l	5002.5		110	90-110			
Cadmium	20900		ng/l	20014		104	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	51600		ng/l	50020		103	90-110			
Copper	2.16E6		ng/l	2.0020E6		108	90-110			
Lead	207000		ng/l	200060		104	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	52300		ng/l	50005		105	90-110			
Nickel	124000		ng/l	120040		104	90-110			
Selenium	20100		ng/l	20002		100	90-110			
Thallium	466		ng/l	499.95		93.2	90-110			
Vanadium	20900		ng/l	20030		104	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2502006-CCV7)				Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20300		ng/l	20004		101	90-110			
Barium	206000		ng/l	200200		103	90-110			
Beryllium	5190		ng/l	5002.5		104	90-110			
Cadmium	20700		ng/l	20014		103	90-110			
Chromium	254000		ng/l	240050		106	90-110			
Cobalt	50900		ng/l	50020		102	90-110			
Copper	2.12E6		ng/l	2.0020E6		106	90-110			

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Calibration Check (2502006-CCV7) Contin				Prepared: 02/04/25 Analyzed: 02/05/25						
Lead	205000		ng/l	200060		102	90-110			
Manganese	512000		ng/l	498900		103	90-110			
Molybdenum	51500		ng/l	50005		103	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20400		ng/l	20002		102	90-110			
Thallium	463		ng/l	499.95		92.5	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	527000		ng/l	500000		105	90-110			
High Cal Check (2502006-HCV1)				Prepared & Analyzed: 02/04/25						
Antimony	39700		ng/l	40016		99.2	95-105			
Arsenic	39600		ng/l	40008		99.0	95-105			
Barium	402000		ng/l	400400		100	95-105			
Beryllium	10100		ng/l	10005		101	95-105			
Cadmium	39300		ng/l	40028		98.3	95-105			
Chromium	475000		ng/l	480100		99.0	95-105			
Cobalt	98500		ng/l	100040		98.5	95-105			
Copper	3.93E6		ng/l	4.0040E6		98.2	95-105			
Lead	399000		ng/l	400120		99.7	95-105			
Manganese	986000		ng/l	997800		98.8	95-105			
Molybdenum	100000		ng/l	100010		100	95-105			
Nickel	236000		ng/l	240070		98.3	95-105			
Selenium	40100		ng/l	40004		100	95-105			
Thallium	1000		ng/l	999.90		100	95-105			
Vanadium	40300		ng/l	40060		101	95-105			
Zinc	990000		ng/l	1.0000E6		99.0	95-105			
Initial Cal Blank (2502006-ICB1)				Prepared & Analyzed: 02/04/25						
Antimony	2.86		ng/l							
Arsenic	-4.70		ng/l							U
Barium	2.53		ng/l							
Beryllium	-7.16E-7		ng/l							U
Cadmium	0.224		ng/l							
Chromium	8.08		ng/l							
Cobalt	0.660		ng/l							
Copper	44.7		ng/l							
Lead	14.5		ng/l							
Manganese	9.16		ng/l							
Molybdenum	25.4		ng/l							
Nickel	0.959		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Initial Cal Blank (2502006-ICB1) Continue					Prepared & Analyzed: 02/04/25					
Selenium	8.94		ng/l							
Thallium	1.47		ng/l							
Vanadium	32.0		ng/l							
Zinc	14.8		ng/l							
Initial Cal Check (2502006-ICV1)					Prepared & Analyzed: 02/04/25					
Antimony	19700		ng/l	20000		98.6	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5290		ng/l	5000.0		106	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2502006-IFA1)					Prepared & Analyzed: 02/04/25					
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	304000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502006 - B5B0406										
Interference Check B (2502006-IFB1)				Prepared & Analyzed: 02/04/25						
Antimony	20200		ng/l	20008		101	80-120			
Arsenic	20000		ng/l	20004		100	80-120			
Barium	199000		ng/l	200200		99.2	80-120			
Beryllium	5120		ng/l	5002.5		102	80-120			
Cadmium	19600		ng/l	20014		97.7	80-120			
Chromium	234000		ng/l	240050		97.4	80-120			
Cobalt	49400		ng/l	50020		98.7	80-120			
Copper	1.90E6		ng/l	2.0020E6		95.0	80-120			
Lead	204000		ng/l	200060		102	80-120			
Manganese	477000		ng/l	498900		95.7	80-120			
Molybdenum	355000		ng/l	350000		101	80-120			
Nickel	116000		ng/l	120040		96.3	80-120			
Selenium	19000		ng/l	20002		94.8	80-120			
Thallium	498		ng/l	499.95		99.5	80-120			
Vanadium	18600		ng/l	20030		92.7	80-120			
Zinc	473000		ng/l	500000		94.6	80-120			
Batch B5B0406 - ICP-MS Extraction										
Blank (B5B0406-BLK1)				Prepared & Analyzed: 02/04/25						
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U
Zinc	ND	114	ng/m³ Air							U
LCS (B5B0406-BS1)				Prepared & Analyzed: 02/04/25						
Antimony	0.847	0.0350	ng/m³ Air	1.3835		61.2	80-120			SL
Arsenic	2.67	0.00889	ng/m³ Air	2.7664		96.5	80-120			
Barium	28.3	1.54	ng/m³ Air	27.686		102	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
LCS (B5B0406-BS1) Continued				Prepared & Analyzed: 02/04/25						
Beryllium	1.34	0.00190	ng/m³ Air	1.3836		97.1	80-120			
Cadmium	1.37	0.00512	ng/m³ Air	1.3839		98.7	80-120			
Chromium	15.1	2.44	ng/m³ Air	13.832		109	80-120			
Cobalt	1.35	0.0520	ng/m³ Air	1.3835		97.4	80-120			
Copper	28.7	0.752	ng/m³ Air	27.686		104	80-120			
Lead	13.6	0.134	ng/m³ Air	13.833		98.0	80-120			
Manganese	8.47	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.50	0.394	ng/m³ Air	1.3831		108	80-120			
Nickel	3.18	0.739	ng/m³ Air	2.7667		115	80-120			
Selenium	2.72	0.0101	ng/m³ Air	2.7661		98.2	80-120			
Thallium	0.130	8.61E-4	ng/m³ Air	0.13828		94.2	80-120			
Vanadium	2.78	0.0458	ng/m³ Air	2.7700		100	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B0406-BS2)				Prepared & Analyzed: 02/04/25						
Antimony	0.864	0.0350	ng/m³ Air	1.3835		62.4	80-120			SL
Arsenic	2.68	0.00889	ng/m³ Air	2.7664		96.9	80-120			
Barium	28.4	1.54	ng/m³ Air	27.686		103	80-120			
Beryllium	1.36	0.00190	ng/m³ Air	1.3836		98.0	80-120			
Cadmium	1.36	0.00512	ng/m³ Air	1.3839		98.5	80-120			
Chromium	15.3	2.44	ng/m³ Air	13.832		110	80-120			
Cobalt	1.34	0.0520	ng/m³ Air	1.3835		96.5	80-120			
Copper	28.5	0.752	ng/m³ Air	27.686		103	80-120			
Lead	13.6	0.134	ng/m³ Air	13.833		98.1	80-120			
Manganese	8.56	0.557	ng/m³ Air	8.2792		103	80-120			
Molybdenum	1.51	0.394	ng/m³ Air	1.3831		109	80-120			
Nickel	3.19	0.739	ng/m³ Air	2.7667		115	80-120			
Selenium	2.74	0.0101	ng/m³ Air	2.7661		98.9	80-120			
Thallium	0.130	8.61E-4	ng/m³ Air	0.13828		94.0	80-120			
Vanadium	2.81	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B0406-BS3)				Prepared & Analyzed: 02/04/25						
Antimony	1.36	0.0350	ng/m³ Air	1.3835		98.2	80-120			SL
Arsenic	2.68	0.00889	ng/m³ Air	2.7664		96.9	80-120			
Barium	27.4	1.54	ng/m³ Air	27.686		99.1	80-120			
Beryllium	1.34	0.00190	ng/m³ Air	1.3836		96.7	80-120			
Cadmium	1.38	0.00512	ng/m³ Air	1.3839		99.5	80-120			
Chromium	14.3	2.44	ng/m³ Air	13.832		104	80-120			
Cobalt	1.34	0.0520	ng/m³ Air	1.3835		96.7	80-120			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
LCS (B5B0406-BS3) Continued				Prepared & Analyzed: 02/04/25						
Copper	28.0	0.752	ng/m³ Air	27.686		101	80-120			
Lead	13.5	0.134	ng/m³ Air	13.833		97.8	80-120			
Manganese	8.23	0.557	ng/m³ Air	8.2792		99.4	80-120			
Molybdenum	1.34	0.394	ng/m³ Air	1.3831		96.9	80-120			
Nickel	2.74	0.739	ng/m³ Air	2.7667		99.1	80-120			
Selenium	2.73	0.0101	ng/m³ Air	2.7661		98.8	80-120			
Thallium	0.131	8.61E-4	ng/m³ Air	0.13828		94.6	80-120			
Vanadium	2.77	0.0458	ng/m³ Air	2.7700		100	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B0406-BS4)				Prepared & Analyzed: 02/04/25						
Antimony	1.34	0.0350	ng/m³ Air	1.3835		96.7	80-120			SL
Arsenic	2.66	0.00889	ng/m³ Air	2.7664		96.1	80-120			
Barium	26.9	1.54	ng/m³ Air	27.686		97.3	80-120			
Beryllium	1.36	0.00190	ng/m³ Air	1.3836		98.0	80-120			
Cadmium	1.35	0.00512	ng/m³ Air	1.3839		97.3	80-120			
Chromium	14.1	2.44	ng/m³ Air	13.832		102	80-120			
Cobalt	1.32	0.0520	ng/m³ Air	1.3835		95.4	80-120			
Copper	27.5	0.752	ng/m³ Air	27.686		99.4	80-120			
Lead	13.4	0.134	ng/m³ Air	13.833		96.7	80-120			
Manganese	8.10	0.557	ng/m³ Air	8.2792		97.9	80-120			
Molybdenum	1.32	0.394	ng/m³ Air	1.3831		95.3	80-120			
Nickel	2.69	0.739	ng/m³ Air	2.7667		97.4	80-120			
Selenium	2.70	0.0101	ng/m³ Air	2.7661		97.7	80-120			
Thallium	0.130	8.61E-4	ng/m³ Air	0.13828		93.7	80-120			
Vanadium	2.76	0.0458	ng/m³ Air	2.7700		99.8	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5B0406-DUP1)		**Source: 5020334-01**		Prepared & Analyzed: 02/04/25						
Antimony	0.151	0.0282	ng/m³ Air		0.150			0.864	10	SL
Arsenic	0.143	0.00717	ng/m³ Air		0.142			1.36	10	
Barium	4.12	1.24	ng/m³ Air		3.91			5.23	10	
Beryllium	0.00469	0.00153	ng/m³ Air		0.00467			0.385	10	
Cadmium	0.00877	0.00413	ng/m³ Air		0.0112			24.3	10	
Chromium	ND	1.97	ng/m³ Air		ND				10	U
Cobalt	0.143	0.0420	ng/m³ Air		0.145			0.721	10	
Copper	81.8	0.607	ng/m³ Air		77.2			5.76	10	
Lead	0.361	0.108	ng/m³ Air		0.342			5.37	10	
Manganese	4.43	0.449	ng/m³ Air		4.33			2.26	10	
Molybdenum	3.01	0.318	ng/m³ Air		2.92			2.87	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Duplicate (B5B0406-DUP1) Continued			**Source: 5020334-01**		Prepared & Analyzed: 02/04/25					
Nickel	0.875	0.596	ng/m³ Air		0.917			4.68	10	
Selenium	0.237	0.00815	ng/m³ Air		0.230			3.33	10	
Thallium	ND	6.95E-4	ng/m³ Air		ND				10	U
Vanadium	0.622	0.0370	ng/m³ Air		0.595			4.41	10	
Zinc	ND	92.0	ng/m³ Air		ND				10	U
Duplicate (B5B0406-DUP2)			**Source: 5020334-21**		Prepared & Analyzed: 02/04/25					
Antimony	0.109	0.0287	ng/m³ Air		0.101			8.01	10	SL
Arsenic	0.203	0.00728	ng/m³ Air		0.212			4.68	10	
Barium	3.13	1.26	ng/m³ Air		2.90			7.42	10	
Beryllium	0.00369	0.00156	ng/m³ Air		0.00424			14.0	10	
Cadmium	0.0145	0.00420	ng/m³ Air		0.0116			22.0	10	
Chromium	ND	2.00	ng/m³ Air		ND				10	U
Cobalt	0.140	0.0426	ng/m³ Air		0.140			0.516	10	
Copper	36.0	0.616	ng/m³ Air		33.1			8.62	10	
Lead	0.247	0.110	ng/m³ Air		0.302			20.0	10	
Manganese	3.92	0.456	ng/m³ Air		4.20			6.96	10	
Molybdenum	1.85	0.323	ng/m³ Air		1.74			5.84	10	
Nickel	0.823	0.606	ng/m³ Air		0.842			2.20	10	
Selenium	0.144	0.00828	ng/m³ Air		0.137			5.32	10	
Thallium	ND	7.05E-4	ng/m³ Air		ND				10	U
Vanadium	0.434	0.0375	ng/m³ Air		0.445			2.63	10	
Zinc	ND	93.4	ng/m³ Air		ND				10	U
Duplicate (B5B0406-DUP3)			**Source: 5020334-11**		Prepared: 02/04/25 Analyzed: 02/05/25					
Antimony	0.394	0.0275	ng/m³ Air		0.398			1.21	10	SL
Arsenic	0.320	0.00698	ng/m³ Air		0.318			0.783	10	
Barium	8.81	1.21	ng/m³ Air		8.87			0.670	10	
Beryllium	0.0184	0.00149	ng/m³ Air		0.0183			0.413	10	
Cadmium	0.0373	0.00402	ng/m³ Air		0.0367			1.82	10	
Chromium	2.49	1.92	ng/m³ Air		2.48			0.488	10	
Cobalt	0.472	0.0409	ng/m³ Air		0.470			0.311	10	
Copper	63.3	0.591	ng/m³ Air		62.7			0.900	10	
Lead	1.33	0.105	ng/m³ Air		1.33			0.131	10	
Manganese	15.2	0.438	ng/m³ Air		15.2			0.0519	10	
Molybdenum	2.54	0.310	ng/m³ Air		2.54			0.165	10	
Nickel	1.76	0.581	ng/m³ Air		1.74			1.09	10	
Selenium	0.385	0.00794	ng/m³ Air		0.385			0.135	10	
Thallium	0.00335	6.76E-4	ng/m³ Air		0.00336			0.317	10	
Vanadium	1.63	0.0360	ng/m³ Air		1.64			0.915	10	

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Duplicate (B5B0406-DUP3) Continued		**Source: 5020334-11**		Prepared: 02/04/25 Analyzed: 02/05/25						
Zinc	ND	89.6	ng/m³ Air		ND				10	U
Duplicate (B5B0406-DUP4)		**Source: 5020334-31**		Prepared: 02/04/25 Analyzed: 02/05/25						
Antimony	0.114	0.0338	ng/m³ Air		0.113			0.900	10	SL
Arsenic	0.139	0.00858	ng/m³ Air		0.138			0.602	10	
Barium	3.04	1.49	ng/m³ Air		3.03			0.380	10	
Beryllium	0.00459	0.00183	ng/m³ Air		0.00460			0.289	10	
Cadmium	0.0107	0.00494	ng/m³ Air		0.0107			0.352	10	
Chromium	ND	2.36	ng/m³ Air		ND				10	U
Cobalt	0.166	0.0502	ng/m³ Air		0.164			1.25	10	
Copper	44.8	0.726	ng/m³ Air		44.6			0.325	10	
Lead	0.288	0.129	ng/m³ Air		0.287			0.442	10	
Manganese	4.83	0.538	ng/m³ Air		4.80			0.489	10	
Molybdenum	1.56	0.380	ng/m³ Air		1.56			0.138	10	
Nickel	0.839	0.713	ng/m³ Air		0.833			0.734	10	
Selenium	0.153	0.00975	ng/m³ Air		0.146			4.31	10	
Thallium	ND	8.31E-4	ng/m³ Air		ND				10	U
Vanadium	0.523	0.0442	ng/m³ Air		0.518			0.870	10	
Zinc	ND	110	ng/m³ Air		ND				10	U
Matrix Spike (B5B0406-MS1)		**Source: 5020334-01**		Prepared & Analyzed: 02/04/25						
Antimony	0.828	0.0282	ng/m³ Air	1.1164	0.150	60.8	80-120			SL
Arsenic	2.26	0.00717	ng/m³ Air	2.2324	0.142	95.1	80-120			
Barium	25.5	1.24	ng/m³ Air	22.342	3.91	96.6	80-120			
Beryllium	1.13	0.00153	ng/m³ Air	1.1166	0.00467	101	80-120			
Cadmium	1.09	0.00413	ng/m³ Air	1.1168	0.0112	96.3	80-120			
Chromium	12.3	1.97	ng/m³ Air	11.162	ND	110	80-120			
Cobalt	1.20	0.0420	ng/m³ Air	1.1164	0.145	94.6	80-120			
Copper	100	0.607	ng/m³ Air	22.342	77.2	103	80-120			
Lead	11.2	0.108	ng/m³ Air	11.163	0.342	96.9	80-120			
Manganese	10.4	0.449	ng/m³ Air	6.6812	4.33	91.5	80-120			
Molybdenum	3.92	0.318	ng/m³ Air	1.1161	2.92	89.8	80-120			
Nickel	2.96	0.596	ng/m³ Air	2.2327	0.917	91.5	80-120			
Selenium	2.32	0.00815	ng/m³ Air	2.2322	0.230	93.7	80-120			
Thallium	0.102	6.95E-4	ng/m³ Air	0.11159	ND	91.6	80-120			
Vanadium	2.73	0.0370	ng/m³ Air	2.2353	0.595	95.4	80-120			
Zinc	ND	92.0	ng/m³ Air	66.960	ND		80-120			U
Matrix Spike (B5B0406-MS2)		**Source: 5020334-21**		Prepared & Analyzed: 02/04/25						
Antimony	0.791	0.0287	ng/m³ Air	1.1336	0.101	60.9	80-120			SL
Arsenic	2.37	0.00728	ng/m³ Air	2.2667	0.212	95.1	80-120			

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Matrix Spike (B5B0406-MS2) Continued	**Source: 5020334-21**			Prepared & Analyzed: 02/04/25						
Barium	25.4	1.26	ng/m³ Air	22.685	2.90	99.2	80-120			
Beryllium	1.12	0.00156	ng/m³ Air	1.1337	0.00424	98.8	80-120			
Cadmium	1.13	0.00420	ng/m³ Air	1.1339	0.0116	98.8	80-120			
Chromium	13.0	2.00	ng/m³ Air	11.333	ND	115	80-120			
Cobalt	1.24	0.0426	ng/m³ Air	1.1336	0.140	97.2	80-120			
Copper	56.7	0.616	ng/m³ Air	22.685	33.1	104	80-120			
Lead	11.4	0.110	ng/m³ Air	11.334	0.302	98.3	80-120			
Manganese	10.7	0.456	ng/m³ Air	6.7836	4.20	95.7	80-120			
Molybdenum	2.88	0.323	ng/m³ Air	1.1332	1.74	99.8	80-120			
Nickel	3.05	0.606	ng/m³ Air	2.2669	0.842	97.3	80-120			
Selenium	2.32	0.00828	ng/m³ Air	2.2664	0.137	96.3	80-120			
Thallium	0.106	7.05E-4	ng/m³ Air	0.11330	ND	93.9	80-120			
Vanadium	2.72	0.0375	ng/m³ Air	2.2696	0.445	100	80-120			
Zinc	ND	93.4	ng/m³ Air	67.986	ND		80-120			U
Matrix Spike Dup (B5B0406-MSD1)	**Source: 5020334-01**			Prepared & Analyzed: 02/04/25						
Antimony	0.806	0.0282	ng/m³ Air	1.1164	0.150	58.8	80-120	2.76	20	SL
Arsenic	2.31	0.00717	ng/m³ Air	2.2324	0.142	96.9	80-120	1.83	20	
Barium	26.1	1.24	ng/m³ Air	22.342	3.91	99.5	80-120	2.51	20	
Beryllium	1.13	0.00153	ng/m³ Air	1.1166	0.00467	100	80-120	0.675	20	
Cadmium	1.12	0.00413	ng/m³ Air	1.1168	0.0112	99.2	80-120	2.93	20	
Chromium	12.5	1.97	ng/m³ Air	11.162	ND	112	80-120	2.04	20	
Cobalt	1.23	0.0420	ng/m³ Air	1.1164	0.145	97.4	80-120	2.53	20	
Copper	105	0.607	ng/m³ Air	22.342	77.2	124	80-120	4.51	20	QM-07
Lead	11.5	0.108	ng/m³ Air	11.163	0.342	100	80-120	3.07	20	
Manganese	10.7	0.449	ng/m³ Air	6.6812	4.33	95.5	80-120	2.52	20	
Molybdenum	4.06	0.318	ng/m³ Air	1.1161	2.92	102	80-120	3.51	20	
Nickel	3.07	0.596	ng/m³ Air	2.2327	0.917	96.4	80-120	3.64	20	
Selenium	2.45	0.00815	ng/m³ Air	2.2322	0.230	99.3	80-120	5.29	20	
Thallium	0.105	6.95E-4	ng/m³ Air	0.11159	ND	94.4	80-120	3.01	20	
Vanadium	2.80	0.0370	ng/m³ Air	2.2353	0.595	98.8	80-120	2.69	20	
Zinc	ND	92.0	ng/m³ Air	66.960	ND		80-120		20	U
Matrix Spike Dup (B5B0406-MSD2)	**Source: 5020334-21**			Prepared & Analyzed: 02/04/25						
Antimony	0.834	0.0287	ng/m³ Air	1.1336	0.101	64.7	80-120	5.27	20	SL
Arsenic	2.39	0.00728	ng/m³ Air	2.2667	0.212	96.2	80-120	1.09	20	
Barium	25.6	1.26	ng/m³ Air	22.685	2.90	100	80-120	0.911	20	
Beryllium	1.14	0.00156	ng/m³ Air	1.1337	0.00424	99.9	80-120	1.05	20	
Cadmium	1.15	0.00420	ng/m³ Air	1.1339	0.0116	101	80-120	1.88	20	
Chromium	13.0	2.00	ng/m³ Air	11.333	ND	115	80-120	0.143	20	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Matrix Spike Dup (B5B0406-MSD2) Contir		**Source: 5020334-21**			Prepared & Analyzed: 02/04/25					
Cobalt	1.24	0.0426	ng/m³ Air	1.1336	0.140	97.0	80-120	0.132	20	
Copper	57.5	0.616	ng/m³ Air	22.685	33.1	108	80-120	1.33	20	
Lead	11.4	0.110	ng/m³ Air	11.334	0.302	97.9	80-120	0.404	20	
Manganese	10.7	0.456	ng/m³ Air	6.7836	4.20	95.8	80-120	0.0922	20	
Molybdenum	2.95	0.323	ng/m³ Air	1.1332	1.74	107	80-120	2.73	20	
Nickel	3.00	0.606	ng/m³ Air	2.2669	0.842	95.1	80-120	1.59	20	
Selenium	2.32	0.00828	ng/m³ Air	2.2664	0.137	96.5	80-120	0.218	20	
Thallium	0.107	7.05E-4	ng/m³ Air	0.11330	ND	94.0	80-120	0.0935	20	
Vanadium	2.71	0.0375	ng/m³ Air	2.2696	0.445	99.7	80-120	0.486	20	
Zinc	ND	93.4	ng/m³ Air	67.986	ND		80-120		20	U
Post Spike (B5B0406-PS1)		**Source: 5020334-01**			Prepared & Analyzed: 02/04/25					
Antimony	0.377	0.0282	ng/m³ Air	0.22320	0.150	102	75-125			SL
Arsenic	1.23	0.00717	ng/m³ Air	1.1160	0.142	97.7	75-125			
Barium	6.05	1.24	ng/m³ Air	2.2320	3.91	95.9	75-125			
Beryllium	0.240	0.00153	ng/m³ Air	0.22320	0.00467	105	75-125			
Cadmium	0.125	0.00413	ng/m³ Air	0.11160	0.0112	102	75-125			
Chromium	2.60	1.97	ng/m³ Air	1.1160	ND	233	75-125			
Cobalt	0.368	0.0420	ng/m³ Air	0.22320	0.145	100	75-125			
Copper	89.8	0.607	ng/m³ Air	11.160	77.2	113	75-125			
Lead	23.0	0.108	ng/m³ Air	22.320	0.342	102	75-125			
Manganese	6.53	0.449	ng/m³ Air	2.2320	4.33	98.4	75-125			
Molybdenum	4.05	0.318	ng/m³ Air	1.1160	2.92	102	75-125			
Nickel	3.14	0.596	ng/m³ Air	2.2320	0.917	99.5	75-125			
Selenium	1.35	0.00815	ng/m³ Air	1.1160	0.230	101	75-125			
Thallium	0.0546	6.95E-4	ng/m³ Air	5.5800E-2	ND	97.9	75-125			
Vanadium	1.72	0.0370	ng/m³ Air	1.1160	0.595	101	75-125			
Zinc	ND	92.0	ng/m³ Air	22.320	ND		75-125			U
Post Spike (B5B0406-PS2)		**Source: 5020334-21**			Prepared & Analyzed: 02/04/25					
Antimony	0.328	0.0287	ng/m³ Air	0.22662	0.101	100	75-125			SL
Arsenic	1.33	0.00728	ng/m³ Air	1.1331	0.212	98.3	75-125			
Barium	5.18	1.26	ng/m³ Air	2.2662	2.90	101	75-125			
Beryllium	0.240	0.00156	ng/m³ Air	0.22662	0.00424	104	75-125			
Cadmium	0.129	0.00420	ng/m³ Air	0.11331	0.0116	104	75-125			
Chromium	2.56	2.00	ng/m³ Air	1.1331	ND	226	75-125			
Cobalt	0.368	0.0426	ng/m³ Air	0.22662	0.140	101	75-125			
Copper	45.5	0.616	ng/m³ Air	11.331	33.1	110	75-125			
Lead	23.3	0.110	ng/m³ Air	22.662	0.302	102	75-125			
Manganese	6.49	0.456	ng/m³ Air	2.2662	4.20	101	75-125			

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Post Spike (B5B0406-PS2) Continued		**Source: 5020334-21**		Prepared & Analyzed: 02/04/25						
Molybdenum	2.90	0.323	ng/m³ Air	1.1331	1.74	102	75-125			
Nickel	3.11	0.606	ng/m³ Air	2.2662	0.842	100	75-125			
Selenium	1.28	0.00828	ng/m³ Air	1.1331	0.137	101	75-125			
Thallium	0.0548	7.05E-4	ng/m³ Air	5.6655E-2	ND	96.7	75-125			
Vanadium	1.61	0.0375	ng/m³ Air	1.1331	0.445	103	75-125			
Zinc	ND	93.4	ng/m³ Air	22.662	ND		75-125			U
Dilution Check (B5B0406-SRL1)		**Source: 5020334-01**		Prepared & Analyzed: 02/04/25						
Antimony	0.149	0.141	ng/m³ Air		0.150			0.575	10	SL
Arsenic	0.135	0.0359	ng/m³ Air		0.142			4.76	10	
Barium	ND	6.21	ng/m³ Air		ND				10	U
Beryllium	ND	0.00767	ng/m³ Air		ND				10	U
Cadmium	ND	0.0207	ng/m³ Air		ND				10	U
Chromium	ND	9.85	ng/m³ Air		ND				10	U
Cobalt	ND	0.210	ng/m³ Air		ND				10	U
Copper	78.6	3.03	ng/m³ Air		77.2			1.77	10	
Lead	ND	0.541	ng/m³ Air		ND				10	U
Manganese	4.51	2.25	ng/m³ Air		4.33			4.04	10	
Molybdenum	2.93	1.59	ng/m³ Air		2.92			0.432	10	
Nickel	ND	2.98	ng/m³ Air		ND				10	U
Selenium	0.236	0.0408	ng/m³ Air		0.230			2.91	10	
Thallium	ND	0.00347	ng/m³ Air		ND				10	U
Vanadium	0.671	0.185	ng/m³ Air		0.595			12.0	10	
Zinc	ND	460	ng/m³ Air		ND				10	U
Dilution Check (B5B0406-SRL2)		**Source: 5020334-21**		Prepared & Analyzed: 02/04/25						
Antimony	ND	0.143	ng/m³ Air		ND				10	SL, U
Arsenic	0.219	0.0364	ng/m³ Air		0.212			2.99	10	
Barium	ND	6.31	ng/m³ Air		ND				10	U
Beryllium	ND	0.00778	ng/m³ Air		ND				10	U
Cadmium	ND	0.0210	ng/m³ Air		ND				10	U
Chromium	ND	10.0	ng/m³ Air		ND				10	U
Cobalt	ND	0.213	ng/m³ Air		ND				10	U
Copper	33.8	3.08	ng/m³ Air		33.1			2.37	10	
Lead	ND	0.549	ng/m³ Air		ND				10	U
Manganese	4.32	2.28	ng/m³ Air		4.20			2.85	10	
Molybdenum	1.79	1.61	ng/m³ Air		1.74			2.61	10	
Nickel	ND	3.03	ng/m³ Air		ND				10	U
Selenium	0.123	0.0414	ng/m³ Air		0.137			10.7	10	
Thallium	ND	0.00353	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 02/11/25 12:55
SUBMITTED: 02/03/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B0406 - ICP-MS Extraction										
Dilution Check (B5B0406-SRL2) Continue Source: 5020334-21 Prepared & Analyzed: 02/04/25										
Vanadium	0.526	0.188	ng/m³ Air		0.445			16.7	10	
Zinc	ND	467	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/11/2025 and Shanna Vasser 2/13/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 01/23/2025 – 01/29/2025
Report No: 5020334

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from January 30 through February 5, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)
- Maria Lanakila Catholic Church (AM-09)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 30 through February 5, 2025 at each of the community locations with the exceptions discussed below in the air monitoring results. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except during periods affected by equipment faults, equipment malfunction, and weather shutdown, as described in the table below:

Date	Location	Cause of Interruption	Duration of Interruption (hrs)	PM_{10} Data Collected (hrs)
1/30/2025	Opukea Townhomes	Equipment fault	2	22
	Lahaina Pump Station #6	Equipment fault	1	23
	WW Pump Station #4	Weather-damaged power cords	5	19
1/31/2025	Lahaina Pump Station #6	Weather shutdown	12	12
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Opukea Townhomes	Weather shutdown	Full period	0
	Maria Lanakila Catholic Church	Weather shutdown	12	12
2/1/2025	Opukea Townhomes	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Maria Lanakila Catholic Church	Weather shutdown	12	12
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
2/2/2025	Opukea Townhomes	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
2/3/2025	Opukea Townhomes	Malfunctioning display	11	13
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	13	11
2/4/2025	Lahaina Pump Station #6	Malfunctioning display	12	12
	Maria Lanakila Catholic Church	Equipment fault	1	23
2/5/2025	Lahaina Pump Station #6	Equipment fault	1	23

The equipment fault on January 30 and February 4 and 5 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation on these days.

The weather shutdown and damaged equipment was the result of a severe storm affecting the Hawaiian Islands on the evening of January 30, including a flood watch and high wind warning issued in Maui County. After discussion with the Tetra Tech Health & Safety team it was decided that a shutdown of active sampling efforts while the storm passed over was the most appropriate course of action to ensure the safety of field teams and equipment and to resume operations after the storm had passed on February 1. Damage to the power cord at WW Pump Station #4 was a result of water from the storm.

PM_{10} concentrations exceeded the 150 µg/m³ 24-hour time-weighted average (TWA) screening level on January 30 and 31 at the Lahaina Pump Station #6 and Maria Lanakila Catholic Church monitoring stations, as shown in **Table 1**.

These exceedances are likely attributable to elevated humidity levels and, in one instance, nearby private contractor construction activities. Details for each exceedance are as follows:

- January 30
    - Maria Lanakila Catholic Church: No U.S. Army Corps of Engineers (USACE) debris crews were observed near the monitoring station. Debris removal operations were not occurring in the vicinity, and therefore air monitoring data are not related to USACE activities.
        - Average humidity: 86 percent
        - Maximum humidity: 99 percent
    - Lahaina Pump Station #6: USACE debris crews were observed near the station; however, no debris removal operations were conducted during the times of exceedance. Private contractor construction activity was observed in the area and may have contributed to elevated PM_{10} levels, in combination with high humidity.
        - Average humidity: 84 percent
        - Maximum humidity: 96 percent
- January 31
    - Maria Lanakila Catholic Church: No USACE crews were present due to a weather-related shutdown. Debris removal operations were not occurring near the monitoring location. The station was shut down at 11:42 AM.
        - Average humidity: 98 percent
        - Maximum humidity: 99 percent
    - Lahaina Pump Station #6: No USACE crews were present due to a weather-related shutdown. Debris removal operations were not occurring near the monitoring location. The station was shut down at 11:56 AM.
        - Average humidity: 86 percent
        - Maximum humidity: 96 percent

Excessive humid conditions in excess of 80% can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.

Air Sampling Results

A total of 21 samples for asbestos fibers were collected during this reporting period. Asbestos samples at WW Pump Station #4 were not collected on January 31, February 2 and 3 because of equipment malfunction. No asbestos sampling occurred on February 1 at any of the stations because of a weather shutdown. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on January 30 and February 2
- WW Pump Station #4 on January 30 and February 4
- Lahaina Pump Station #6 on January 30 and February 3 through 4
- Maria Lanakila Catholic Church on February 3

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Heavy metal samples at WW Pump Station #4 were not collected on February 2 and 3 because of equipment malfunction. No heavy metal sampling occurred on February 1 at any of the stations because of weather shutdown. Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.9 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

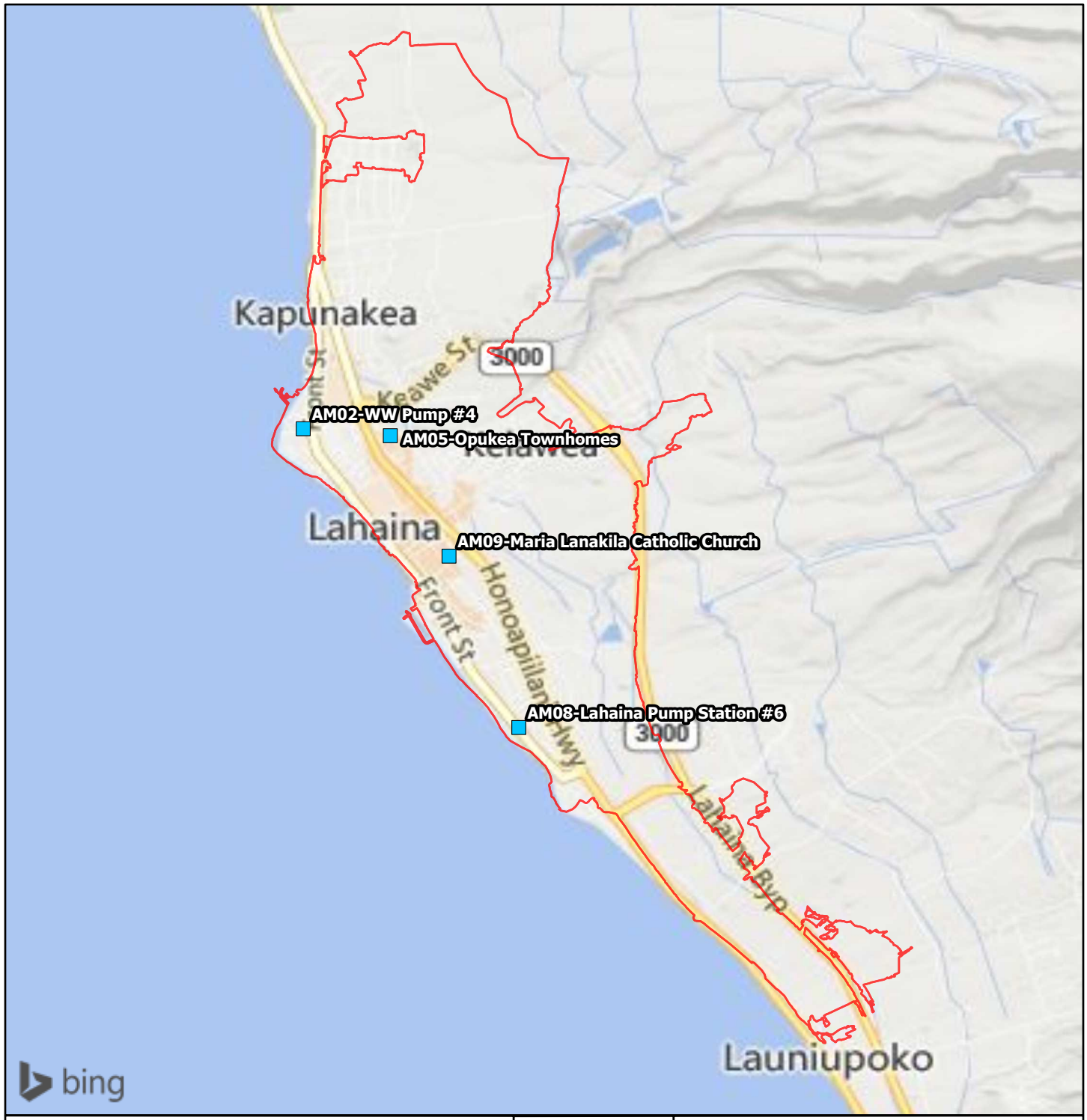
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Lahaina Fire Perimeter

Air Sampling Locations

N

0 0.25 0.5

Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Path: \\etss706gisfs1\CORPArcGisShare\EMI\Denver\Lahaina_Fire\Lahaina_Fire\Lahaina_Fire.aprx\Lahaina_Fire_AM01-AM09

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Screening Level		TWA Results 150 (µg/m³)
1/30/2025	Opukea Townhomes (AM-05)	14[1]
	WW Pump Station #4 (AM-02)	12.0
	Maria Lanakila Catholic Church (AM-09)	**233**
	Lahaina Pump Station #6 (AM-08)	**177**[2]
1/31/2025	Opukea Townhomes (AM-05)	--
	WW Pump Station #4 (AM-02)	--
	Maria Lanakila Catholic Church (AM-09)	**168**[3]
	Lahaina Pump Station #6 (AM-08)	**362**[3]
2/1/2025	Opukea Townhomes (AM-05)	
	WW Pump Station #4 (AM-02)	
	Maria Lanakila Catholic Church (AM-09)	9.4[3]
	Lahaina Pump Station #6 (AM-08)	
2/2/2025	Opukea Townhomes (AM-05)	
	WW Pump Station #4 (AM-02)	
	Maria Lanakila Catholic Church (AM-09)	16
	Lahaina Pump Station #6 (AM-08)	
2/3/2025	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	7.8
	Maria Lanakila Catholic Church (AM-09)	12
	Lahaina Pump Station #6 (AM-08)	
2/4/2025	Opukea Townhomes (AM-05)	6.7
	WW Pump Station #4 (AM-02)	8.4
	Maria Lanakila Catholic Church (AM-09)	11[2]
	Lahaina Pump Station #6 (AM-08)	6.5
2/5/2025	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	5.8
	Maria Lanakila Catholic Church (AM-09)	11
	Lahaina Pump Station #6 (AM-08)	4.6[2]

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
Shaded and Bold cell indicates an exceedance of screening level
-- = Weather shutdown
Equipment Malfunction
Data provided are from a reduced TWA calculation because of an equipment malfunction (see report for details)
[1] Data provided are from a reduced (22-hr) TWA calculation because of an equipment fault
[2] Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

[5] Data provided are from a reduced TWA calculation because of weather shutdown (see report for details)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
1/30/2025	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000380	0.00416	0.00000953	0.0000455	ND	0.000302	0.0818	0.00128	0.00969	0.00219	0.00160	0.000312	0.00000363	0.000934	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000964	0.000149	0.00235	0.00000372	0.0000370	ND	0.0000948	0.0674	0.000405	0.00303	0.00167	0.000649	0.000307	0.00000308	0.000338	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.0000542	0.000200	0.00162	0.00000226	0.0000333	ND	0.0000886	0.0447	0.000481	0.00238	0.00219	0.000794	0.000305	0.00000320	0.000268	ND
	Lahaina Pump Station #6 (AM-08)	<0.0027	0.000153	0.000308	0.00189	0.00000329	0.0000306	ND	0.000159	0.0521	0.000344	0.00374	0.00177	0.000828	0.000269	0.00000303	0.000325	ND
1/31/2025	Opukea Townhomes (AM-05)	<0.0024	0.000125	0.000286	0.00265	0.00000353	0.0000684	ND	0.000175	0.0392	0.000593	0.00382	0.00133	0.00202	0.000348	ND	0.000396	ND
	WW Pump Station #4 (AM-02)		0.000481	0.000343	0.00681	0.00000815	0.0000333	ND	0.000244	0.106	0.000821	0.00757	0.00294	0.00189	0.000564	ND	0.000766	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000555	0.000219	0.00170	ND	0.0000487	ND	0.0000816	0.0526	0.000275	0.00219	0.00235	0.000977	0.000249	ND	0.000205	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000380	0.000184	0.00173	0.00000226	0.0000448	ND	0.000156	0.0568	0.000137	0.00359	0.00185	0.00249	0.000202	ND	0.000241	ND
2/1/2025	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)																	
	Lahaina Pump Station #6 (AM-08)																	
2/2/2025	Opukea Townhomes (AM-05)	<0.0024	0.000263	0.000205	0.00400	0.00000734	0.0000171	ND	0.000229	0.0270	0.000520	0.00674	0.000796	0.00115	0.000176	0.00000198	0.000672	ND
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000733	0.000272	0.00242	0.00000388	0.0000167	ND	0.000100	0.0268	0.000509	0.00324	0.000883	0.000641	0.000159	0.00000170	0.000294	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000144	0.000189	0.00243	0.00000306	0.0000185	ND	0.0000738	0.0672	0.000400	0.00251	0.00175	ND	0.000172	0.00000149	0.000240	ND
2/3/2025	Opukea Townhomes (AM-05)	<0.0024	0.000156	0.000195	0.00417	0.00000780	0.0000145	0.00234	0.000288	0.0345	0.000484	0.00819	0.00109	0.00131	0.000189	0.00000151	0.000931	ND
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000120	0.000201	0.00440	0.00000518	0.0000190	ND	0.000131	0.0273	0.000424	0.00437	0.00116	0.000784	0.000197	0.00000133	0.000465	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000218	0.000176	0.00387	0.00000389	0.0000234	ND	0.000104	0.0557	0.000452	0.00349	0.00157	0.000814	0.000217	0.00000125	0.000369	ND
2/4/2025	Opukea Townhomes (AM-05)	<0.0024	0.000154	0.000163	0.00421	0.00000864	0.0000119	0.00266	0.000368	0.0440	0.000373	0.00886	0.00123	0.00178	0.000120	0.000000915	0.00118	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000287	0.000361	0.00819	0.0000200	0.0000268	0.00541	0.000646	0.0537	0.00126	0.0182	0.00177	0.00242	0.000231	0.00000179	0.00223	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.000130	0.000240	0.00418	0.00000817	0.0000136	0.00287	0.000283	0.0362	0.000546	0.00796	0.00197	0.00162	0.000160	0.00000121	0.000923	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000219	0.000207	0.00379	0.00000600	0.0000889	ND	0.000181	0.0837	0.000391	0.00548	0.00214	0.00103	0.000178	0.00000118	0.000621	ND
2/5/2025	Opukea Townhomes (AM-05)	<0.0024	0.000172	0.000373	0.00754	0.0000209	0.0000189	0.00445	0.000845	0.0410	0.000858	0.0219	0.00125	0.00300	0.000179	0.00000178	0.00264	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000577	0.000435	0.0115	0.0000261	0.0000289	0.00404	0.000780	0.0548	0.00198	0.0243	0.00205	0.00324	0.000229	0.00000177	0.00272	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000155	0.000349	0.00611	0.0000143	0.0000243	0.00292	0.000566	0.0336	0.00100	0.0146	0.00168	0.00212	0.000193	0.00000144	0.00178	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000307	0.00414	0.0000109	0.0000176	0.00234	0.000375	0.0703	0.000561	0.0112	0.00196	0.00136	0.000175	0.00000126	0.00120	ND
95% Upper Confidence Limit[2]		NA	0.000260	0.000300	0.00542	0.0000120	0.0000390	0.00432	0.000410	0.0616	0.000830	0.0114	0.00196	0.00189	0.000270	0.00000220	0.00136	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP
Weather shutdown
Equipment malfunction

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/30/2025*	AM-02	WW Pump Station #4	2.4	SSE	77	85	757.3
1/30/2025	AM-09	Maria Lanakila Catholic Church	2.5	SSW	77	86	757.0
1/30/2025	AM-05	Opukea Townhomes	3.9	S	77	87	757.0
1/30/2025	AM-08	Lahaina Pump Station #6	5.0	S	76	84	757.3
1/31/2025*	AM-02	WW Pump Station #4					
1/31/2025*	AM-09	Maria Lanakila Catholic Church	1.2	SSW	73	98	757.9
1/31/2025*	AM-05	Opukea Townhomes					
1/31/2025*	AM-08	Lahaina Pump Station #6	2.7	SE	74	86	758.4
2/1/2025*	AM-02	WW Pump Station #4					
2/1/2025*	AM-09	Maria Lanakila Catholic Church	2.3	S	77	62	759.9
2/1/2025*	AM-05	Opukea Townhomes					
2/1/2025*	AM-08	Lahaina Pump Station #6					
2/2/2025*	AM-02	WW Pump Station #4					
2/2/2025	AM-09	Maria Lanakila Catholic Church	1.8	ESE	74	57	761.1
2/2/2025*	AM-05	Opukea Townhomes					
2/2/2025*	AM-08	Lahaina Pump Station #6					
2/3/2025*	AM-02	WW Pump Station #4	1.2	SSW	75	61	762.1
2/3/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	65	761.6
2/3/2025*	AM-05	Opukea Townhomes	1.5	SSE	76	60	761.7
2/3/2025*	AM-08	Lahaina Pump Station #6					
2/4/2025	AM-02	WW Pump Station #4	1.1	S	73	66	762.3
2/4/2025*	AM-09	Maria Lanakila Catholic Church	1.6	SE	73	66	761.5
2/4/2025	AM-05	Opukea Townhomes	1.3	ESE	74	64	761.8
2/4/2025*	AM-08	Lahaina Pump Station #6	2.7	SE	74	62	761.4
2/5/2025	AM-02	WW Pump Station #4	0.8	S	74	66	762.4
2/5/2025	AM-03	Lahaina Intermediate School	1.0	SSE	73	67	761.6
2/5/2025	AM-05	Opukea Townhomes	1.0	ESE	74	65	762.0
2/5/2025*	AM-08	Lahaina Pump Station #6	1.5	SSE	73	64	762.0

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour
Equipment Malfunction
*** = Reduced monitoring time (see report for details)**

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502212
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-013025-AB** **Sample Description: DL915204**

EMSL Sample Number:	042502212-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7260.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0001 **Customer Sample:** MFL-AM05-013025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H4	None Detected									
B1	E8	None Detected									
B1	C6	None Detected									
B2	H6	None Detected									
B2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502212
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-013025-AB** **Sample Description: DL915232**

EMSL Sample Number:	042502212-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7220.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0002 **Customer Sample:** MFL-AM02-013025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	B6	None Detected									
B5	E2	None Detected									
B5	G5	None Detected									
B6	C4	None Detected									
B6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502212
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-013025-AB** **Sample Description: DL915213**

EMSL Sample Number:	042502212-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6800.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0003 **Customer Sample:** MFL-AM09-013025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G4	None Detected									
C1	E7	None Detected									
C1	B8	None Detected									
C2	I9	None Detected									
C2	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-013025-AB**		**Sample Description:**	**DL915216**
EMSL Sample Number:	042502212-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6851.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numberous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0004 **Customer Sample:** MFL-AM08-013025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	D4	None Detected									
C5	G8	None Detected									
C6	I1	None Detected									
C6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502212
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-013025-AB** **Sample Description: DL915239**

EMSL Sample Number:	042502212-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0005 **Customer Sample:** MFL-FB01-013025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	C3	None Detected									
D2	D5	None Detected									
D2	E3	None Detected									
D2	G4	None Detected									
D2	I7	None Detected									
D3	I3	None Detected									
D3	G4	None Detected									
D3	E7	None Detected									
D3	C8	None Detected									
D3	A9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502212
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-013125-AB** **Sample Description: DL915238**

EMSL Sample Number:	042502212-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0006 **Customer Sample:** MFL-AM05-013125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A6	None Detected									
D5	E8	None Detected									
D5	H6	None Detected									
D6	H4	None Detected									
D6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-013125-AB** **Sample Description: DL915235**

EMSL Sample Number:	042502212-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7217.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0007 **Customer Sample:** MFL-AM09-013125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	G5	None Detected									
E2	D7	None Detected									
E3	H8	None Detected									
E3	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-013125-AB** **Sample Description: DL915242**

EMSL Sample Number:	042502212-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7184.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0008 **Customer Sample:** MFL-AM08-013125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J4	None Detected									
E5	G8	None Detected									
E5	C6	None Detected									
E6	C5	None Detected									
E6	F3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-013125-AB** **Sample Description: DL915223**

EMSL Sample Number:	042502212-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0009 **Customer Sample:** MFL-FB01-013125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A6	None Detected									
F2	C8	None Detected									
F2	E10	None Detected									
F2	G7	None Detected									
F2	I8	None Detected									
F3	J8	None Detected									
F3	H4	None Detected									
F3	F4	None Detected									
F3	E8	None Detected									
F3	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020125-AB** **Sample Description: DL915245**

EMSL Sample Number:	042502212-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0010 **Customer Sample:** MFL-FB01-020125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C7	None Detected									
F5	E8	None Detected									
F5	G8	None Detected									
F5	I4	None Detected									
F6	J7	None Detected									
F6	H4	None Detected									
F6	F4	None Detected									
F6	D5	None Detected									
F6	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502212
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-020225-AB** **Sample Description: DL915220**

EMSL Sample Number:	042502212-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7151.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0011 **Customer Sample:** MFL-AM05-020225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	E3	None Detected									
G2	F9	None Detected									
G2	I6	None Detected									
G3	B5	None Detected									
G3	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM09-020225-AB** **Sample Description: DL915208**

EMSL Sample Number:	042502212-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0012 **Customer Sample:** MFL-AM09-020225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	F9	None Detected									
G5	I10	None Detected									
G6	C8	None Detected									
G6	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM08-020225-AB** **Sample Description: DL915199**

EMSL Sample Number:	042502212-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7271.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0013 **Customer Sample:** MFL-AM08-020225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H3	B7	None Detected									
H3	E8	None Detected									
H3	I7	None Detected									
H4	H7	None Detected									
H4	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/10/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020225-AB** **Sample Description:** **DL915246**

EMSL Sample Number:	042502212-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Order ID: 042502212
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0014 **Customer Sample:** MFL-FB01-020225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A4	None Detected									
H5	C8	None Detected									
H5	E7	None Detected									
H5	G7	None Detected									
H5	I9	None Detected									
H6	J9	None Detected									
H6	H8	None Detected									
H6	F7	None Detected									
H6	D4	None Detected									
H6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2025 12:05 PM
Analysis Date:	02/08/2025
Report Date:	02/12/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042502212-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042502212**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	C9	None Detected									
A2	C5	None Detected									
A2	F4	None Detected									
A2	I6	None Detected									
A3	B3	None Detected									
A3	D7	None Detected									
A3	H4	None Detected									
A1	J8	None Detected									
A1	G5	None Detected									
A1	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL Order Number / Lab Use Only

#042502212

RECEIVED EMSL CINNAMINSON, NJ 25 FEB -5 PM12:05

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	14

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-013025-AB	DL915204	7,260.813	01/30/25 1053
MFL-AM02-013025-AB	DL915232	7,220.304	01/30/25 1117
MFL-AM09-013025-AB	DL915213	6,800.408	01/30/25 1135
MFL-AM08-013025-AB	DL915216	6,851.583	01/30/25 1157
MFL-FB01-013025-AB	DL915239	0	01/30/25 1200
MFL-AM05-013125-AB	DL915238	7,223.927	01/31/25 1111
*~~MFL-AM02-013125-AB~~	~~DL915240~~		~~01/31/25~~
MFL-AM09-013125-AB	DL915235	7,217.017	01/31/25 1140

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

*VOID. Power outage. runtime and volume not determined.

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 02/03/25 1100	Received by:	Date/Time: 2/3/25 1205
Relinquished by:		Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

 1455

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502212

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE (800) 220-3675
EMAIL: CinnAsbLab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
25 FEB -5 PM 12:05

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-013125-AB	DL915242	7,184.615	01/31/25 1156
MFL-FB01-013125-AB	DL915223	0	01/31/25 1200
MFL-FB01-020125-AB	DL915215	0	02/01/25 1200
MFL-AM05-020225-AB	DL915220	7,151.696	02/02/25 1058
MFL-AM09-020225-AB	DL915208	7,223.885	02/02/25 1146
MFL-AM08-020225-AB	DL915199	7,270.973	02/02/25 1204
MFL-FB01-020225-AB	DL915246	0	02/02/25 1200

Method of Shipment:	Fedex			Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time:	02/03/25 1100	Received by:	Date/Time
Relinquished by:		Date/Time:		Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/28/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/13/2025 and Shanna Vasser 02/14/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 01/30/2025 – 02/02/2025
Report No: 42502212

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

4. MFL-AM02-013125-AB was listed on the CoC, but crossed off, voided (due to a power outage), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020325-AB**		**Sample Description:**	**DL915209**
EMSL Sample Number:	042502511-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0001 **Customer Sample:** MFL-AM05-020325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	I4	None Detected									
B1	F7	None Detected									
B1	B3	None Detected									
B2	C6	None Detected									
B2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020325-AB**		**Sample Description:**	**TEM0682786**
EMSL Sample Number:	042502511-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0002 **Customer Sample:** MFL-AM09-020325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	H4	None Detected									
B2	G8	None Detected									
B5	B6	None Detected									
B6	C7	None Detected									
B6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020325-AB**		**Sample Description:**	**TEM0682990**
EMSL Sample Number:	042502511-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0003 **Customer Sample:** MFL-AM08-020325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I9	None Detected									
C1	G5	None Detected									
C1	A4	None Detected									
C2	H2	None Detected									
C2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020325-AB**		**Sample Description:**	**TEM0682939**
EMSL Sample Number:	042502511-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042502511**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0004 **Customer Sample:** MFL-FB01-020325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J6	None Detected									
C5	H3	None Detected									
C5	F7	None Detected									
C5	A4	None Detected									
C6	B3	None Detected									
C6	F3	None Detected									
C6	I3	None Detected									
C7	J4	None Detected									
C7	G7	None Detected									
C7	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020425-AB**		**Sample Description:**	**TEM0682920**
EMSL Sample Number:	042502511-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0005 **Customer Sample:** MFL-AM05-020425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	I9	None Detected									
D1	E5	None Detected									
D1	B7	None Detected									
D2	C2	None Detected									
D2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020425-AB**		**Sample Description:**	**TEM0682789**
EMSL Sample Number:	042502511-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6698.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0006 **Customer Sample:** MFL-AM02-020425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	E4	None Detected									
D5	H3	None Detected									
D6	I6	None Detected									
D6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020425-AB**		**Sample Description:**	**TEM0682784**
EMSL Sample Number:	042502511-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7102.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0007 **Customer Sample:** MFL-AM09-020425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	A8	None Detected									
E1	E5	None Detected									
E1	G3	None Detected									
E2	C5	None Detected									
E2	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020425-AB**		**Sample Description:**	**TEM0683026**
EMSL Sample Number:	042502511-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0008 **Customer Sample:** MFL-AM08-020425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A3	None Detected									
E6	E7	None Detected									
E6	J4	None Detected									
E7	D3	None Detected									
E7	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020425-AB**		**Sample Description:**	**TEM0682826**
EMSL Sample Number:	042502511-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0009 **Customer Sample:** MFL-FB01-020425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I4	None Detected									
F1	F8	None Detected									
F1	D3	None Detected									
F1	A5	None Detected									
F2	B9	None Detected									
F2	F6	None Detected									
F2	H8	None Detected									
F3	J5	None Detected									
F3	E3	None Detected									
F3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020525-AB**		**Sample Description:**	**TEM0683131**
EMSL Sample Number:	042502511-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0010 **Customer Sample:** MFL-AM05-020525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J7	None Detected									
F5	G2	None Detected									
F5	C5	None Detected									
F6	I4	None Detected									
F6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020525-AB**		**Sample Description:**	**TEM0682991**
EMSL Sample Number:	042502511-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0011 **Customer Sample:** MFL-AM02-020525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B2	None Detected									
G1	D6	None Detected									
G1	H7	None Detected									
G2	C8	None Detected									
G2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020525-AB**		**Sample Description:**	**TEM0682900**
EMSL Sample Number:	042502511-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0012 **Customer Sample:** MFL-AM09-020525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	G5	None Detected									
G5	F8	None Detected									
G5	B5	None Detected									
G6	A6	None Detected									
G6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020525-AB**		**Sample Description:**	**TEM0682834**
EMSL Sample Number:	042502511-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7387.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0013 **Customer Sample:** MFL-AM08-020525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J8	None Detected									
H1	F4	None Detected									
H1	B6	None Detected									
H2	A7	None Detected									
H2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/13/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020525-AB**		**Sample Description:**	**TEM0682938**
EMSL Sample Number:	042502511-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0014 **Customer Sample:** MFL-FB01-020525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A5	None Detected									
H5	D7	None Detected									
H5	F3	None Detected									
H5	I4	None Detected									
H6	J9	None Detected									
H6	H5	None Detected									
H6	C7	None Detected									
H7	B8	None Detected									
H7	E4	None Detected									
H7	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502511
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/10/2025 10:00 AM
Analysis Date:	02/12/2025
Report Date:	02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042502511-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502511
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502511-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	G8	None Detected									
A1	D5	None Detected									
A1	A3	None Detected									
A2	B4	None Detected									
A2	E7	None Detected									
A2	I5	None Detected									
A3	H7	None Detected									
A3	F4	None Detected									
A3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only: 042502911

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples In Shipment	14

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

Received FEB 10 2025 EMSL Inc.

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-020325-AB	DL9152O9	7,216.327	02/03/25 1101
MFL-AM09-020325-AB	TEM0682786	7,203.691	02/03/25 1145
MFL-AM08-020325-AB	TEM0682990	7,231.683	02/03/25 1205
MFL-FB01-020325-AB	TEM0682939	0	02/03/25 1200
MFL-AM05-020425-AB	TEM0682920	7,187.695	02/04/25 1053
MFL-AM02-020425-AB	TEM0682789	6,698.116	02/04/25 1111
MFL-AM09-020425-AB	TEM0682784	7,102.053	02/04/25 1128
MFL-AM08-020425-AB	TEM0683026	7,162.743	02/04/25 1149

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 02/06/25 1100	Received by:	Date/Time 2-10-25 10
Relinquished by:		Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042502511

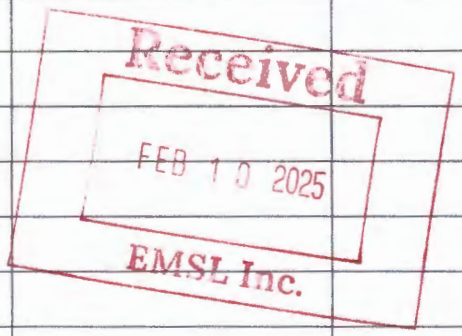
EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-FB01-020425-AB	TEM0682826	0	02/04/25 1200
MFL-AM05-020525-AB	TEM0683131	7,164.928	02/05/25 1101
MFL-AM02-020525-AB	TEM0682991	7,175.520	02/05/25 1114
MFL-AM09-020525-AB	TEM0682900	7,173.936	02/05/25 1132
MFL-AM08-020525-AB	TEM0682834	7,387.930	02/05/25 1216
MFL-FB01-020525-AB	TEM0682938	0	02/05/25 1200



Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 02/06/25 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-09 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/18/2025 and Shanna Vasser 02/19/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/03/2025 – 02/05/2025
Report No: 42502511

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

February 19, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 02/10/25 12:28.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-013025-HM	5021031-01	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM02-013025-HM	5021031-02	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM09-013025-HM	5021031-03	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM08-013025-HM	5021031-04	Air	01/30/25 23:59	02/10/25 12:28
MFL-FB01-013025-HM	5021031-05	Air	01/30/25 00:00	02/10/25 12:28
MFL-AM05-013125-HM	5021031-06	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM02-013125-HM	5021031-07	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM09-013125-HM	5021031-08	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM08-013125-HM	5021031-09	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM05-020225-HM	5021031-10	Air	02/02/25 23:59	02/10/25 12:28
MFL-AM09-020225-HM	5021031-11	Air	02/02/25 23:59	02/10/25 12:28
MFL-AM08-020225-HM	5021031-12	Air	02/02/25 23:59	02/10/25 12:28
MFL-LB01-020225-HM	5021031-13	Air	02/02/25 00:00	02/10/25 12:28
MFL-AM05-020325-HM	5021031-14	Air	02/03/25 23:59	02/10/25 12:28
MFL-AM09-020325-HM	5021031-15	Air	02/03/25 23:59	02/10/25 12:28
MFL-AM08-020325-HM	5021031-16	Air	02/03/25 23:59	02/10/25 12:28
MFL-FB01-020325-HM	5021031-17	Air	02/03/25 00:00	02/10/25 12:28
MFL-AM05-020425-HM	5021031-18	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM02-020425-HM	5021031-19	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM09-020425-HM	5021031-20	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM08-020425-HM	5021031-21	Air	02/04/25 23:59	02/10/25 12:28

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM05-020525-HM	5021031-22	Air	02/05/25 23:59	02/10/25 12:28
MFL-AM02-020525-HM	5021031-23	Air	02/05/25 23:59	02/10/25 12:28
MFL-AM09-020525-HM	5021031-24	Air	02/05/25 23:59	02/10/25 12:28
MFL-AM08-020525-HM	5021031-25	Air	02/05/25 23:59	02/10/25 12:28
MFL-FB01-020525-HM	5021031-26	Air	02/05/25 00:00	02/10/25 12:28

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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-013025-HM
Matrix: Air
Lab ID: 5021031-01
Sample Volume: 1801.427 m³
Filter ID:
Sampled: 01/30/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 00:45

Comments: Q8525939 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.380**		**0.00803**
Barium	**7440-39-3**	**4.16**		**1.39**
Beryllium	**7440-41-7**	**0.00953**		**0.00172**
Cadmium	**7440-43-9**	**0.0455**		**0.00462**
Chromium	7440-47-3	1.95	U	2.20
Cobalt	**7440-48-4**	**0.302**		**0.0470**
Copper	**7440-50-8**	**81.8**		**0.679**
Lead	**7439-92-1**	**1.28**		**0.121**
Manganese	**7439-96-5**	**9.69**		**0.503**
Molybdenum	**7439-98-7**	**2.19**		**0.356**
Nickel	**7440-02-0**	**1.60**		**0.667**
Selenium	**7782-49-2**	**0.312**		**0.00912**
Thallium	**7440-28-0**	**0.00363**		**7.78E-4**
Vanadium	**7440-62-2**	**0.934**		**0.0414**
Zinc	7440-66-6	25.1	U	103

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-013025-HM
Matrix: Air
Lab ID: 5021031-02
Sample Volume: 2137.75 m³
Filter ID:
Sampled: 01/30/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/11/25 21:37

Comments: Q8525938 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0964**	SL	**0.0266**
Arsenic	**7440-38-2**	**0.149**		**0.00677**
Barium	**7440-39-3**	**2.35**		**1.17**
Beryllium	**7440-41-7**	**0.00372**		**0.00145**
Cadmium	**7440-43-9**	**0.0370**	D-F	**0.00390**
Chromium	7440-47-3	1.18	U	1.86
Cobalt	**7440-48-4**	**0.0948**		**0.0396**
Copper	**7440-50-8**	**67.4**	A-01, QM-07	**0.572**
Lead	**7439-92-1**	**0.405**		**0.102**
Manganese	**7439-96-5**	**3.03**		**0.424**
Molybdenum	**7439-98-7**	**1.67**		**0.300**
Nickel	**7440-02-0**	**0.649**		**0.562**
Selenium	**7782-49-2**	**0.307**		**0.00769**
Thallium	**7440-28-0**	**0.00308**		**6.55E-4**
Vanadium	**7440-62-2**	**0.338**		**0.0349**
Zinc	7440-66-6	12.8	U	86.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-013025-HM
Matrix: Air
Lab ID: 5021031-03
Sample Volume: 1913.8 m³
Filter ID:
Sampled: 01/30/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 01:00

Comments: Q8525937 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0542**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.200**		**0.00756**
Barium	**7440-39-3**	**1.62**		**1.31**
Beryllium	**7440-41-7**	**0.00226**		**0.00162**
Cadmium	**7440-43-9**	**0.0333**		**0.00435**
Chromium	7440-47-3	1.54	U	2.07
Cobalt	**7440-48-4**	**0.0886**		**0.0442**
Copper	**7440-50-8**	**44.7**		**0.639**
Lead	**7439-92-1**	**0.481**		**0.114**
Manganese	**7439-96-5**	**2.38**		**0.474**
Molybdenum	**7439-98-7**	**2.19**		**0.335**
Nickel	**7440-02-0**	**0.794**		**0.628**
Selenium	**7782-49-2**	**0.305**		**0.00859**
Thallium	**7440-28-0**	**0.00320**		**7.32E-4**
Vanadium	**7440-62-2**	**0.268**		**0.0389**
Zinc	7440-66-6	11.1	U	96.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-013025-HM
Matrix: Air
Lab ID: 5021031-04
Sample Volume: 1790.041 m³
Filter ID:
Sampled: 01/30/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 01:13

Comments: Q8525936 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.308**		**0.00808**
Barium	**7440-39-3**	**1.89**		**1.40**
Beryllium	**7440-41-7**	**0.00329**		**0.00173**
Cadmium	**7440-43-9**	**0.0306**		**0.00465**
Chromium	7440-47-3	1.45	U	2.22
Cobalt	**7440-48-4**	**0.159**		**0.0473**
Copper	**7440-50-8**	**52.1**		**0.684**
Lead	**7439-92-1**	**0.344**		**0.122**
Manganese	**7439-96-5**	**3.74**		**0.506**
Molybdenum	**7439-98-7**	**1.77**		**0.358**
Nickel	**7440-02-0**	**0.828**		**0.672**
Selenium	**7782-49-2**	**0.269**		**0.00918**
Thallium	**7440-28-0**	**0.00303**		**7.83E-4**
Vanadium	**7440-62-2**	**0.325**		**0.0416**
Zinc	7440-66-6	11.0	U	104

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-013025-HM
Matrix: Air
Lab ID: 5021031-05
Sample Volume: 1801.427 m³
Filter ID:
Sampled: 01/30/25 00:00
Received: 02/10/25 12:28
Analysis Date: 02/12/25 01:26

Comments: Q8521640 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0237	SL, U	0.0316
Arsenic	7440-38-2	0.00202	U	0.00803
Barium	7440-39-3	1.22	U	1.39
Beryllium	7440-41-7	4.04E-4	U	0.00172
Cadmium	7440-43-9	0.00114	U	0.00462
Chromium	7440-47-3	1.20	U	2.20
Cobalt	7440-48-4	0.0248	U	0.0470
Copper	**7440-50-8**	**1.12**	FB-01	**0.679**
Lead	7439-92-1	0.0384	U	0.121
Manganese	7439-96-5	0.186	U	0.503
Molybdenum	7439-98-7	0.204	U	0.356
Nickel	7440-02-0	0.486	U	0.667
Selenium	7782-49-2	0.00122	U	0.00912
Thallium	7440-28-0	1.58E-4	U	7.78E-4
Vanadium	7440-62-2	0.0398	U	0.0414
Zinc	7440-66-6	5.43	U	103

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-013125-HM
Matrix: Air
Lab ID: 5021031-06
Sample Volume: 1235.358 m³
Filter ID:
Sampled: 01/31/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 01:39

Comments: Q8521645 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0461**
Arsenic	**7440-38-2**	**0.286**		**0.0117**
Barium	**7440-39-3**	**2.65**		**2.03**
Beryllium	**7440-41-7**	**0.00353**		**0.00250**
Cadmium	**7440-43-9**	**0.0684**		**0.00674**
Chromium	7440-47-3	2.04	U	3.21
Cobalt	**7440-48-4**	**0.175**		**0.0685**
Copper	**7440-50-8**	**39.2**		**0.990**
Lead	**7439-92-1**	**0.593**		**0.176**
Manganese	**7439-96-5**	**3.82**		**0.734**
Molybdenum	**7439-98-7**	**1.33**		**0.519**
Nickel	**7440-02-0**	**2.02**		**0.973**
Selenium	**7782-49-2**	**0.348**		**0.0133**
Thallium	7440-28-0	7.27E-4	U	0.00113
Vanadium	**7440-62-2**	**0.396**		**0.0603**
Zinc	7440-66-6	26.0	U	150

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-013125-HM
Matrix: Air
Lab ID: 5021031-07
Sample Volume: 743.655 m³
Filter ID:
Sampled: 01/31/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 01:53

Comments: Q8521644 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.481**	SL	**0.0766**
Arsenic	**7440-38-2**	**0.343**		**0.0194**
Barium	**7440-39-3**	**6.81**		**3.37**
Beryllium	**7440-41-7**	**0.00815**		**0.00416**
Cadmium	**7440-43-9**	**0.0333**		**0.0112**
Chromium	7440-47-3	3.30	U	5.34
Cobalt	**7440-48-4**	**0.244**		**0.114**
Copper	**7440-50-8**	**106**		**1.65**
Lead	**7439-92-1**	**0.821**		**0.293**
Manganese	**7439-96-5**	**7.57**		**1.22**
Molybdenum	**7439-98-7**	**2.94**		**0.862**
Nickel	**7440-02-0**	**1.89**		**1.62**
Selenium	**7782-49-2**	**0.564**		**0.0221**
Thallium	7440-28-0	0.00124	U	0.00188
Vanadium	**7440-62-2**	**0.766**		**0.100**
Zinc	7440-66-6	55.8	U	249

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-013125-HM **Lab ID:** 5021031-08 **Sampled:** 01/31/25 23:59
Matrix: Air **Sample Volume:** 1960.82 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 02:06

Comments: Q8521639 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0555**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.219**		**0.00738**
Barium	**7440-39-3**	**1.70**		**1.28**
Beryllium	7440-41-7	0.00149	U	0.00158
Cadmium	**7440-43-9**	**0.0487**		**0.00425**
Chromium	7440-47-3	1.37	U	2.02
Cobalt	**7440-48-4**	**0.0816**		**0.0431**
Copper	**7440-50-8**	**52.6**		**0.624**
Lead	**7439-92-1**	**0.275**		**0.111**
Manganese	**7439-96-5**	**2.19**		**0.462**
Molybdenum	**7439-98-7**	**2.35**		**0.327**
Nickel	**7440-02-0**	**0.977**		**0.613**
Selenium	**7782-49-2**	**0.249**		**0.00838**
Thallium	7440-28-0	4.76E-4	U	7.14E-4
Vanadium	**7440-62-2**	**0.205**		**0.0380**
Zinc	7440-66-6	11.1	U	94.6

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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-013125-HM
Matrix: Air
Lab ID: 5021031-09
Sample Volume: 1829.441 m³
Filter ID:
Sampled: 01/31/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 02:19

Comments: Q8521637 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.380**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.184**		**0.00791**
Barium	**7440-39-3**	**1.73**		**1.37**
Beryllium	**7440-41-7**	**0.00226**		**0.00169**
Cadmium	**7440-43-9**	**0.0448**		**0.00455**
Chromium	7440-47-3	1.22	U	2.17
Cobalt	**7440-48-4**	**0.156**		**0.0462**
Copper	**7440-50-8**	**56.8**		**0.669**
Lead	**7439-92-1**	**0.137**		**0.119**
Manganese	**7439-96-5**	**3.59**		**0.495**
Molybdenum	**7439-98-7**	**1.85**		**0.350**
Nickel	**7440-02-0**	**2.49**		**0.657**
Selenium	**7782-49-2**	**0.202**		**0.00898**
Thallium	7440-28-0	4.75E-4	U	7.66E-4
Vanadium	**7440-62-2**	**0.241**		**0.0407**
Zinc	7440-66-6	19.0	U	101

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020225-HM
Matrix: Air
Lab ID: 5021031-10
Sample Volume: 2024.984 m³
Filter ID:
Sampled: 02/02/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/11/25 17:54

Comments: Q8521636 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.263**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.205**		**0.00714**
Barium	**7440-39-3**	**4.00**		**1.24**
Beryllium	**7440-41-7**	**0.00734**		**0.00153**
Cadmium	**7440-43-9**	**0.0171**		**0.00411**
Chromium	7440-47-3	1.95	U	1.96
Cobalt	**7440-48-4**	**0.229**		**0.0418**
Copper	**7440-50-8**	**27.0**		**0.604**
Lead	**7439-92-1**	**0.520**		**0.108**
Manganese	**7439-96-5**	**6.74**		**0.448**
Molybdenum	**7439-98-7**	**0.796**		**0.317**
Nickel	**7440-02-0**	**1.15**		**0.594**
Selenium	**7782-49-2**	**0.176**		**0.00811**
Thallium	**7440-28-0**	**0.00198**		**6.92E-4**
Vanadium	**7440-62-2**	**0.672**		**0.0368**
Zinc	7440-66-6	19.4	U	91.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020225-HM
Matrix: Air
Lab ID: 5021031-11
Sample Volume: 1931.994 m³
Filter ID:
Sampled: 02/02/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 03:24

Comments: Q8521634 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0733**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.272**		**0.00749**
Barium	**7440-39-3**	**2.42**		**1.30**
Beryllium	**7440-41-7**	**0.00388**		**0.00160**
Cadmium	**7440-43-9**	**0.0167**		**0.00431**
Chromium	7440-47-3	1.21	U	2.05
Cobalt	**7440-48-4**	**0.100**		**0.0438**
Copper	**7440-50-8**	**26.8**		**0.633**
Lead	**7439-92-1**	**0.509**		**0.113**
Manganese	**7439-96-5**	**3.24**		**0.469**
Molybdenum	**7439-98-7**	**0.883**		**0.332**
Nickel	**7440-02-0**	**0.641**		**0.622**
Selenium	**7782-49-2**	**0.159**		**0.00851**
Thallium	**7440-28-0**	**0.00170**		**7.25E-4**
Vanadium	**7440-62-2**	**0.294**		**0.0386**
Zinc	7440-66-6	11.0	U	96.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020225-HM
Matrix: Air
Lab ID: 5021031-12
Sample Volume: 1631.105 m³
Filter ID:
Sampled: 02/02/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 03:37

Comments: Q8521633 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.189**		**0.00887**
Barium	**7440-39-3**	**2.43**		**1.54**
Beryllium	**7440-41-7**	**0.00306**		**0.00190**
Cadmium	**7440-43-9**	**0.0185**		**0.00511**
Chromium	7440-47-3	2.16	U	2.43
Cobalt	**7440-48-4**	**0.0738**		**0.0519**
Copper	**7440-50-8**	**67.2**		**0.750**
Lead	**7439-92-1**	**0.400**		**0.134**
Manganese	**7439-96-5**	**2.51**		**0.556**
Molybdenum	**7439-98-7**	**1.75**		**0.393**
Nickel	7440-02-0	0.735	U	0.737
Selenium	**7782-49-2**	**0.172**		**0.0101**
Thallium	**7440-28-0**	**0.00149**		**8.59E-4**
Vanadium	**7440-62-2**	**0.240**		**0.0457**
Zinc	7440-66-6	11.1	U	114

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-020225-HM
Matrix: Air
Lab ID: 5021031-13
Sample Volume: 2024.984 m³
Filter ID:
Sampled: 02/02/25 00:00
Received: 02/10/25 12:28
Analysis Date: 02/12/25 03:50

Comments: Q8521631 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0199	SL, U	0.0281
Arsenic	7440-38-2	0.00239	U	0.00714
Barium	7440-39-3	0.917	U	1.24
Beryllium	7440-41-7	2.74E-4	U	0.00153
Cadmium	7440-43-9	6.40E-4	U	0.00411
Chromium	7440-47-3	0.752	U	1.96
Cobalt	7440-48-4	0.00876	U	0.0418
Copper	7440-50-8	0.368	U	0.604
Lead	7439-92-1	0.0203	U	0.108
Manganese	7439-96-5	0.211	U	0.448
Molybdenum	7439-98-7	0.129	U	0.317
Nickel	7440-02-0	0.328	U	0.594
Selenium	7782-49-2	ND	U	0.00811
Thallium	7440-28-0	1.17E-4	U	6.92E-4
Vanadium	7440-62-2	0.0252	U	0.0368
Zinc	7440-66-6	7.56	U	91.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020325-HM
Matrix: Air
Lab ID: 5021031-14
Sample Volume: 2084.709 m³
Filter ID:
Sampled: 02/03/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 04:04

Comments: Q8521630 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0273**
Arsenic	**7440-38-2**	**0.195**		**0.00694**
Barium	**7440-39-3**	**4.17**		**1.20**
Beryllium	**7440-41-7**	**0.00780**		**0.00148**
Cadmium	**7440-43-9**	**0.0145**		**0.00400**
Chromium	**7440-47-3**	**2.34**		**1.90**
Cobalt	**7440-48-4**	**0.288**		**0.0406**
Copper	**7440-50-8**	**34.5**		**0.587**
Lead	**7439-92-1**	**0.484**		**0.105**
Manganese	**7439-96-5**	**8.19**		**0.435**
Molybdenum	**7439-98-7**	**1.09**		**0.307**
Nickel	**7440-02-0**	**1.31**		**0.577**
Selenium	**7782-49-2**	**0.189**		**0.00788**
Thallium	**7440-28-0**	**0.00151**		**6.72E-4**
Vanadium	**7440-62-2**	**0.931**		**0.0357**
Zinc	7440-66-6	16.8	U	89.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020325-HM
Matrix: Air
Lab ID: 5021031-15
Sample Volume: 2004.487 m³
Filter ID:
Sampled: 02/03/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 04:18

Comments: Q8521629 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0284**
Arsenic	**7440-38-2**	**0.201**		**0.00722**
Barium	**7440-39-3**	**4.40**		**1.25**
Beryllium	**7440-41-7**	**0.00518**		**0.00154**
Cadmium	**7440-43-9**	**0.0190**		**0.00416**
Chromium	7440-47-3	1.28	U	1.98
Cobalt	**7440-48-4**	**0.131**		**0.0422**
Copper	**7440-50-8**	**27.3**		**0.610**
Lead	**7439-92-1**	**0.424**		**0.109**
Manganese	**7439-96-5**	**4.37**		**0.452**
Molybdenum	**7439-98-7**	**1.16**		**0.320**
Nickel	**7440-02-0**	**0.784**		**0.600**
Selenium	**7782-49-2**	**0.197**		**0.00820**
Thallium	**7440-28-0**	**0.00133**		**6.99E-4**
Vanadium	**7440-62-2**	**0.465**		**0.0372**
Zinc	7440-66-6	13.1	U	92.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020325-HM
Matrix: Air
Lab ID: 5021031-16
Sample Volume: 1978.463 m³
Filter ID:
Sampled: 02/03/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 04:32

Comments: Q8521628 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.218**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.176**		**0.00731**
Barium	**7440-39-3**	**3.87**		**1.27**
Beryllium	**7440-41-7**	**0.00389**		**0.00156**
Cadmium	**7440-43-9**	**0.0234**		**0.00421**
Chromium	7440-47-3	1.38	U	2.01
Cobalt	**7440-48-4**	**0.104**		**0.0428**
Copper	**7440-50-8**	**55.7**		**0.618**
Lead	**7439-92-1**	**0.452**		**0.110**
Manganese	**7439-96-5**	**3.49**		**0.458**
Molybdenum	**7439-98-7**	**1.57**		**0.324**
Nickel	**7440-02-0**	**0.814**		**0.608**
Selenium	**7782-49-2**	**0.217**		**0.00831**
Thallium	**7440-28-0**	**0.00125**		**7.08E-4**
Vanadium	**7440-62-2**	**0.369**		**0.0377**
Zinc	7440-66-6	15.7	U	93.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020325-HM
Matrix: Air
Lab ID: 5021031-17
Sample Volume: 2084.709 m³
Filter ID:
Sampled: 02/03/25 00:00
Received: 02/10/25 12:28
Analysis Date: 02/12/25 04:46

Comments: Q8521622 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0280**	FB-01, SL	**0.0273**
Arsenic	7440-38-2	0.00431	U	0.00694
Barium	7440-39-3	0.941	U	1.20
Beryllium	7440-41-7	2.23E-4	U	0.00148
Cadmium	7440-43-9	0.00157	U	0.00400
Chromium	7440-47-3	0.777	U	1.90
Cobalt	7440-48-4	0.00993	U	0.0406
Copper	**7440-50-8**	**1.15**	FB-01	**0.587**
Lead	7439-92-1	0.0477	U	0.105
Manganese	7439-96-5	0.170	U	0.435
Molybdenum	7439-98-7	0.161	U	0.307
Nickel	7440-02-0	0.379	U	0.577
Selenium	7782-49-2	ND	U	0.00788
Thallium	7440-28-0	7.73E-5	U	6.72E-4
Vanadium	7440-62-2	0.0332	U	0.0357
Zinc	7440-66-6	5.89	U	89.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020425-HM
Matrix: Air
Lab ID: 5021031-18
Sample Volume: 2151.23 m³
Filter ID:
Sampled: 02/04/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 04:59

Comments: Q8521626 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.154**	SL	**0.0265**
Arsenic	**7440-38-2**	**0.163**		**0.00672**
Barium	**7440-39-3**	**4.21**		**1.16**
Beryllium	**7440-41-7**	**0.00864**		**0.00144**
Cadmium	**7440-43-9**	**0.0119**		**0.00387**
Chromium	**7440-47-3**	**2.66**		**1.85**
Cobalt	**7440-48-4**	**0.368**		**0.0393**
Copper	**7440-50-8**	**44.0**		**0.569**
Lead	**7439-92-1**	**0.373**		**0.101**
Manganese	**7439-96-5**	**8.86**		**0.421**
Molybdenum	**7439-98-7**	**1.23**		**0.298**
Nickel	**7440-02-0**	**1.78**		**0.559**
Selenium	**7782-49-2**	**0.120**		**0.00764**
Thallium	**7440-28-0**	**9.15E-4**		**6.51E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0346**
Zinc	7440-66-6	16.0	U	86.2

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020425-HM
Matrix: Air
Lab ID: 5021031-19
Sample Volume: 1932.274 m³
Filter ID:
Sampled: 02/04/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 05:13

Comments: Q8521621 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.287**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.361**		**0.00749**
Barium	**7440-39-3**	**8.19**		**1.30**
Beryllium	**7440-41-7**	**0.0200**		**0.00160**
Cadmium	**7440-43-9**	**0.0268**		**0.00431**
Chromium	**7440-47-3**	**5.41**		**2.05**
Cobalt	**7440-48-4**	**0.646**		**0.0438**
Copper	**7440-50-8**	**53.7**		**0.633**
Lead	**7439-92-1**	**1.26**		**0.113**
Manganese	**7439-96-5**	**18.2**		**0.469**
Molybdenum	**7439-98-7**	**1.77**		**0.332**
Nickel	**7440-02-0**	**2.42**		**0.622**
Selenium	**7782-49-2**	**0.231**		**0.00850**
Thallium	**7440-28-0**	**0.00179**		**7.25E-4**
Vanadium	**7440-62-2**	**2.23**		**0.0386**
Zinc	7440-66-6	28.3	U	96.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020425-HM
Matrix: Air
Lab ID: 5021031-20
Sample Volume: 1857.117 m³
Filter ID:
Sampled: 02/04/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 06:17

Comments: Q8521624 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.240**		**0.00779**
Barium	**7440-39-3**	**4.18**		**1.35**
Beryllium	**7440-41-7**	**0.00817**		**0.00166**
Cadmium	**7440-43-9**	**0.0136**		**0.00449**
Chromium	**7440-47-3**	**2.87**		**2.14**
Cobalt	**7440-48-4**	**0.283**		**0.0456**
Copper	**7440-50-8**	**36.2**		**0.659**
Lead	**7439-92-1**	**0.546**		**0.117**
Manganese	**7439-96-5**	**7.96**		**0.488**
Molybdenum	**7439-98-7**	**1.97**		**0.345**
Nickel	**7440-02-0**	**1.62**		**0.647**
Selenium	**7782-49-2**	**0.160**		**0.00885**
Thallium	**7440-28-0**	**0.00121**		**7.54E-4**
Vanadium	**7440-62-2**	**0.923**		**0.0401**
Zinc	7440-66-6	15.5	U	99.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020425-HM
Matrix: Air
Lab ID: 5021031-21
Sample Volume: 1772.179 m³
Filter ID:
Sampled: 02/04/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 06:44

Comments: Q8521623 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.219**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.207**		**0.00816**
Barium	**7440-39-3**	**3.79**		**1.41**
Beryllium	**7440-41-7**	**0.00600**		**0.00174**
Cadmium	**7440-43-9**	**0.0889**		**0.00470**
Chromium	7440-47-3	1.86	U	2.24
Cobalt	**7440-48-4**	**0.181**		**0.0477**
Copper	**7440-50-8**	**83.7**		**0.690**
Lead	**7439-92-1**	**0.391**		**0.123**
Manganese	**7439-96-5**	**5.48**		**0.511**
Molybdenum	**7439-98-7**	**2.14**		**0.362**
Nickel	**7440-02-0**	**1.03**		**0.678**
Selenium	**7782-49-2**	**0.178**		**0.00927**
Thallium	**7440-28-0**	**0.00118**		**7.90E-4**
Vanadium	**7440-62-2**	**0.621**		**0.0420**
Zinc	7440-66-6	14.1	U	105

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020525-HM
Matrix: Air
Lab ID: 5021031-22
Sample Volume: 2102.204 m³
Filter ID:
Sampled: 02/05/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 06:58

Comments: Q8521620 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0271**
Arsenic	**7440-38-2**	**0.373**		**0.00688**
Barium	**7440-39-3**	**7.54**		**1.19**
Beryllium	**7440-41-7**	**0.0209**		**0.00147**
Cadmium	**7440-43-9**	**0.0189**		**0.00396**
Chromium	**7440-47-3**	**4.45**		**1.89**
Cobalt	**7440-48-4**	**0.845**		**0.0402**
Copper	**7440-50-8**	**41.0**		**0.582**
Lead	**7439-92-1**	**0.858**		**0.104**
Manganese	**7439-96-5**	**21.9**		**0.431**
Molybdenum	**7439-98-7**	**1.25**		**0.305**
Nickel	**7440-02-0**	**3.00**		**0.572**
Selenium	**7782-49-2**	**0.179**		**0.00782**
Thallium	**7440-28-0**	**0.00178**		**6.66E-4**
Vanadium	**7440-62-2**	**2.64**		**0.0354**
Zinc	7440-66-6	19.8	U	88.2

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020525-HM
Matrix: Air
Lab ID: 5021031-23
Sample Volume: 2122.533 m³
Filter ID:
Sampled: 02/05/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 07:13

Comments: Q8521619 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.577**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.435**		**0.00681**
Barium	**7440-39-3**	**11.5**		**1.18**
Beryllium	**7440-41-7**	**0.0261**		**0.00146**
Cadmium	**7440-43-9**	**0.0289**		**0.00392**
Chromium	**7440-47-3**	**4.04**		**1.87**
Cobalt	**7440-48-4**	**0.780**		**0.0399**
Copper	**7440-50-8**	**54.8**		**0.576**
Lead	**7439-92-1**	**1.98**		**0.103**
Manganese	**7439-96-5**	**24.3**		**0.427**
Molybdenum	**7439-98-7**	**2.05**		**0.302**
Nickel	**7440-02-0**	**3.24**		**0.566**
Selenium	**7782-49-2**	**0.229**		**0.00774**
Thallium	**7440-28-0**	**0.00177**		**6.60E-4**
Vanadium	**7440-62-2**	**2.72**		**0.0351**
Zinc	7440-66-6	39.3	U	87.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020525-HM
Matrix: Air
Lab ID: 5021031-24
Sample Volume: 2048.063 m³
Filter ID:
Sampled: 02/05/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 07:32

Comments: Q8521618 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.349**		**0.00706**
Barium	**7440-39-3**	**6.11**		**1.22**
Beryllium	**7440-41-7**	**0.0143**		**0.00151**
Cadmium	**7440-43-9**	**0.0243**		**0.00407**
Chromium	**7440-47-3**	**2.92**		**1.94**
Cobalt	**7440-48-4**	**0.566**		**0.0413**
Copper	**7440-50-8**	**33.6**		**0.597**
Lead	**7439-92-1**	**1.00**		**0.106**
Manganese	**7439-96-5**	**14.6**		**0.442**
Molybdenum	**7439-98-7**	**1.68**		**0.313**
Nickel	**7440-02-0**	**2.12**		**0.587**
Selenium	**7782-49-2**	**0.193**		**0.00802**
Thallium	**7440-28-0**	**0.00144**		**6.84E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0364**
Zinc	7440-66-6	20.1	U	90.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020525-HM
Matrix: Air
Lab ID: 5021031-25
Sample Volume: 1779.171 m³
Filter ID:
Sampled: 02/05/25 23:59
Received: 02/10/25 12:28
Analysis Date: 02/12/25 07:45

Comments: Q8521613 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.307**		**0.00813**
Barium	**7440-39-3**	**4.14**		**1.41**
Beryllium	**7440-41-7**	**0.0109**		**0.00174**
Cadmium	**7440-43-9**	**0.0176**		**0.00468**
Chromium	**7440-47-3**	**2.34**		**2.23**
Cobalt	**7440-48-4**	**0.375**		**0.0476**
Copper	**7440-50-8**	**70.3**		**0.688**
Lead	**7439-92-1**	**0.561**		**0.123**
Manganese	**7439-96-5**	**11.2**		**0.509**
Molybdenum	**7439-98-7**	**1.96**		**0.360**
Nickel	**7440-02-0**	**1.36**		**0.676**
Selenium	**7782-49-2**	**0.175**		**0.00924**
Thallium	**7440-28-0**	**0.00126**		**7.87E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0419**
Zinc	7440-66-6	16.5	U	104

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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020525-HM
Matrix: Air
Lab ID: 5021031-26
Sample Volume: 2102.204 m³
Filter ID:
Sampled: 02/05/25 00:00
Received: 02/10/25 12:28
Analysis Date: 02/12/25 08:12

Comments: Q8521610 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0219	SL, U	0.0271
Arsenic	**7440-38-2**	**0.00730**	FB-01	**0.00688**
Barium	7440-39-3	1.01	U	1.19
Beryllium	7440-41-7	4.34E-4	U	0.00147
Cadmium	7440-43-9	0.00130	U	0.00396
Chromium	7440-47-3	0.793	U	1.89
Cobalt	7440-48-4	0.0148	U	0.0402
Copper	**7440-50-8**	**3.22**	FB-01	**0.582**
Lead	7439-92-1	0.0529	U	0.104
Manganese	7439-96-5	0.287	U	0.431
Molybdenum	7439-98-7	0.203	U	0.305
Nickel	7440-02-0	0.437	U	0.572
Selenium	7782-49-2	0.00281	U	0.00782
Thallium	7440-28-0	6.03E-5	U	6.66E-4
Vanadium	**7440-62-2**	**0.0431**	FB-01	**0.0354**
Zinc	7440-66-6	5.74	U	88.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Blank (2502024-CCB1)				Prepared & Analyzed: 02/11/25						
Antimony	0.653		ng/l							
Arsenic	-4.36		ng/l							U
Barium	-1.10		ng/l							U
Beryllium	-0.476		ng/l							U
Cadmium	-0.0353		ng/l							U
Chromium	5.81		ng/l							
Cobalt	0.304		ng/l							
Copper	20.2		ng/l							
Lead	2.85		ng/l							
Manganese	3.94		ng/l							
Molybdenum	16.6		ng/l							
Nickel	0.671		ng/l							
Selenium	2.34		ng/l							
Thallium	1.53		ng/l							
Vanadium	62.3		ng/l							
Zinc	58.2		ng/l							
Calibration Blank (2502024-CCB2)				Prepared & Analyzed: 02/11/25						
Antimony	0.787		ng/l							
Arsenic	-4.60		ng/l							U
Barium	-1.25		ng/l							U
Beryllium	-0.688		ng/l							U
Cadmium	-0.0287		ng/l							U
Chromium	3.75		ng/l							
Cobalt	0.110		ng/l							
Copper	13.5		ng/l							
Lead	1.97		ng/l							
Manganese	1.86		ng/l							
Molybdenum	4.83		ng/l							
Nickel	0.901		ng/l							
Selenium	-3.68		ng/l							U
Thallium	1.08		ng/l							
Vanadium	32.7		ng/l							
Zinc	-26.7		ng/l							U
Calibration Blank (2502024-CCB3)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	0.744		ng/l							
Arsenic	-9.48		ng/l							U
Barium	-0.730		ng/l							U
Beryllium	-0.369		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Blank (2502024-CCB3) Contin				Prepared: 02/11/25 Analyzed: 02/12/25						
Cadmium	-0.0965		ng/l							U
Chromium	5.08		ng/l							
Cobalt	0.155		ng/l							
Copper	12.8		ng/l							
Lead	1.49		ng/l							
Manganese	0.150		ng/l							
Molybdenum	5.63		ng/l							
Nickel	-0.564		ng/l							U
Selenium	1.89		ng/l							
Thallium	1.06		ng/l							
Vanadium	20.2		ng/l							
Zinc	-30.9		ng/l							U
Calibration Blank (2502024-CCB4)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	0.461		ng/l							
Arsenic	-3.32		ng/l							U
Barium	2.54		ng/l							
Beryllium	-0.689		ng/l							U
Cadmium	0.242		ng/l							
Chromium	9.11		ng/l							
Cobalt	0.371		ng/l							
Copper	28.5		ng/l							
Lead	2.95		ng/l							
Manganese	5.36		ng/l							
Molybdenum	6.53		ng/l							
Nickel	-0.0516		ng/l							U
Selenium	7.19		ng/l							
Thallium	0.847		ng/l							
Vanadium	16.2		ng/l							
Zinc	265		ng/l							
Calibration Blank (2502024-CCB5)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	0.601		ng/l							
Arsenic	-2.30		ng/l							U
Barium	-0.326		ng/l							U
Beryllium	-1.09		ng/l							U
Cadmium	-0.0709		ng/l							U
Chromium	4.62		ng/l							
Cobalt	0.0650		ng/l							
Copper	8.37		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Blank (2502024-CCB5) Contin				Prepared: 02/11/25 Analyzed: 02/12/25						
Lead	1.29		ng/l							
Manganese	0.447		ng/l							
Molybdenum	6.64		ng/l							
Nickel	0.569		ng/l							
Selenium	7.19		ng/l							
Thallium	0.953		ng/l							
Vanadium	8.76		ng/l							
Zinc	6.21		ng/l							
Calibration Blank (2502024-CCB6)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	0.846		ng/l							
Arsenic	-0.0646		ng/l							U
Barium	-1.38		ng/l							U
Beryllium	-1.10		ng/l							LJ, QX, U
Cadmium	-0.0873		ng/l							U
Chromium	5.06		ng/l							
Cobalt	0.0933		ng/l							
Copper	9.03		ng/l							
Lead	1.50		ng/l							
Manganese	1.09		ng/l							
Molybdenum	7.40		ng/l							
Nickel	1.06		ng/l							
Selenium	2.36		ng/l							
Thallium	1.21		ng/l							
Vanadium	-0.0918		ng/l							U
Zinc	46.5		ng/l							
Calibration Check (2502024-CCV1)				Prepared & Analyzed: 02/11/25						
Antimony	20200		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		100	90-110			
Barium	198000		ng/l	200200		99.0	90-110			
Beryllium	5000		ng/l	5002.5		99.9	90-110			
Cadmium	20300		ng/l	20014		102	90-110			
Chromium	251000		ng/l	240050		105	90-110			
Cobalt	50200		ng/l	50020		100	90-110			
Copper	2.05E6		ng/l	2.0020E6		103	90-110			
Lead	201000		ng/l	200060		100	90-110			
Manganese	492000		ng/l	498900		98.7	90-110			
Molybdenum	50200		ng/l	50005		100	90-110			
Nickel	121000		ng/l	120040		101	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Check (2502024-CCV1) Contin				Prepared & Analyzed: 02/11/25						
Selenium	20300		ng/l	20002		101	90-110			
Thallium	492		ng/l	499.95		98.3	90-110			
Vanadium	20400		ng/l	20030		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2502024-CCV2)				Prepared & Analyzed: 02/11/25						
Antimony	20000		ng/l	20008		99.7	90-110			
Arsenic	19700		ng/l	20004		98.7	90-110			
Barium	197000		ng/l	200200		98.5	90-110			
Beryllium	5050		ng/l	5002.5		101	90-110			
Cadmium	20100		ng/l	20014		100	90-110			
Chromium	249000		ng/l	240050		104	90-110			
Cobalt	49300		ng/l	50020		98.5	90-110			
Copper	2.03E6		ng/l	2.0020E6		102	90-110			
Lead	198000		ng/l	200060		99.2	90-110			
Manganese	493000		ng/l	498900		98.7	90-110			
Molybdenum	49500		ng/l	50005		99.1	90-110			
Nickel	118000		ng/l	120040		98.6	90-110			
Selenium	20000		ng/l	20002		100	90-110			
Thallium	470		ng/l	499.95		94.1	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2502024-CCV3)				Prepared & Analyzed: 02/11/25						
Antimony	19900		ng/l	20008		99.7	90-110			
Arsenic	19800		ng/l	20004		99.0	90-110			
Barium	198000		ng/l	200200		99.1	90-110			
Beryllium	5130		ng/l	5002.5		103	90-110			
Cadmium	20200		ng/l	20014		101	90-110			
Chromium	247000		ng/l	240050		103	90-110			
Cobalt	49000		ng/l	50020		97.9	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	493000		ng/l	498900		98.9	90-110			
Molybdenum	49600		ng/l	50005		99.2	90-110			
Nickel	118000		ng/l	120040		98.6	90-110			
Selenium	20300		ng/l	20002		101	90-110			
Thallium	472		ng/l	499.95		94.4	90-110			
Vanadium	20300		ng/l	20030		102	90-110			
Zinc	516000		ng/l	500000		103	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Check (2502024-CCV4)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	19900		ng/l	20008		99.3	90-110			
Arsenic	19600		ng/l	20004		98.1	90-110			
Barium	202000		ng/l	200200		101	90-110			
Beryllium	5170		ng/l	5002.5		103	90-110			
Cadmium	20000		ng/l	20014		100	90-110			
Chromium	246000		ng/l	240050		102	90-110			
Cobalt	48600		ng/l	50020		97.1	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	198000		ng/l	200060		99.2	90-110			
Manganese	491000		ng/l	498900		98.3	90-110			
Molybdenum	49700		ng/l	50005		99.4	90-110			
Nickel	117000		ng/l	120040		97.8	90-110			
Selenium	20100		ng/l	20002		100	90-110			
Thallium	459		ng/l	499.95		91.8	90-110			
Vanadium	20200		ng/l	20030		101	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2502024-CCV5)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	212000		ng/l	200200		106	90-110			
Beryllium	5120		ng/l	5002.5		102	90-110			
Cadmium	20900		ng/l	20014		104	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.14E6		ng/l	2.0020E6		107	90-110			
Lead	206000		ng/l	200060		103	90-110			
Manganese	511000		ng/l	498900		103	90-110			
Molybdenum	51900		ng/l	50005		104	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20700		ng/l	20002		103	90-110			
Thallium	472		ng/l	499.95		94.3	90-110			
Vanadium	21100		ng/l	20030		105	90-110			
Zinc	530000		ng/l	500000		106	90-110			
Calibration Check (2502024-CCV6)				Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	21000		ng/l	20008		105	90-110			
Arsenic	20300		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		103	90-110			
Beryllium	5120		ng/l	5002.5		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Calibration Check (2502024-CCV6) Contin				Prepared: 02/11/25 Analyzed: 02/12/25						
Cadmium	21000		ng/l	20014		105	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	50800		ng/l	50020		101	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	207000		ng/l	200060		103	90-110			
Manganese	511000		ng/l	498900		102	90-110			
Molybdenum	51400		ng/l	50005		103	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20700		ng/l	20002		104	90-110			
Thallium	476		ng/l	499.95		95.3	90-110			
Vanadium	21200		ng/l	20030		106	90-110			
Zinc	529000		ng/l	500000		106	90-110			
High Cal Check (2502024-HCV1)				Prepared & Analyzed: 02/11/25						
Antimony	40200		ng/l	40016		100	95-105			
Arsenic	39900		ng/l	40008		99.6	95-105			
Barium	396000		ng/l	400400		98.9	95-105			
Beryllium	9710		ng/l	10005		97.0	95-105			
Cadmium	40100		ng/l	40028		100	95-105			
Chromium	479000		ng/l	480100		99.9	95-105			
Cobalt	98100		ng/l	100040		98.1	95-105			
Copper	3.95E6		ng/l	4.0040E6		98.5	95-105			
Lead	401000		ng/l	400120		100	95-105			
Manganese	995000		ng/l	997800		99.7	95-105			
Molybdenum	99100		ng/l	100010		99.1	95-105			
Nickel	235000		ng/l	240070		97.8	95-105			
Selenium	39600		ng/l	40004		98.9	95-105			
Thallium	989		ng/l	999.90		98.9	95-105			
Vanadium	40700		ng/l	40060		102	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2502024-ICB1)				Prepared & Analyzed: 02/11/25						
Antimony	1.09		ng/l							
Arsenic	-7.92		ng/l							U
Barium	-1.53		ng/l							U
Beryllium	-0.245		ng/l							U
Cadmium	-0.0464		ng/l							U
Chromium	5.70		ng/l							
Cobalt	-0.00431		ng/l							U
Copper	19.7		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Initial Cal Blank (2502024-ICB1) Continu				Prepared & Analyzed: 02/11/25						
Lead	2.43		ng/l							
Manganese	4.73		ng/l							
Molybdenum	8.69		ng/l							
Nickel	-2.24		ng/l							U
Selenium	5.91		ng/l							
Thallium	1.06		ng/l							
Vanadium	87.1		ng/l							
Zinc	-2.07		ng/l							U
Initial Cal Check (2502024-ICV1)				Prepared & Analyzed: 02/11/25						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2502024-IFA1)				Prepared & Analyzed: 02/11/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	308000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502024 - B5B1108										
Interference Check A (2502024-IFA1) Co					Prepared & Analyzed: 02/11/25					
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2502024-IFB1)					Prepared & Analyzed: 02/11/25					
Antimony	20500		ng/l	20008		102	80-120			
Arsenic	20400		ng/l	20004		102	80-120			
Barium	203000		ng/l	200200		101	80-120			
Beryllium	4790		ng/l	5002.5		95.7	80-120			
Cadmium	20000		ng/l	20014		99.7	80-120			
Chromium	239000		ng/l	240050		99.7	80-120			
Cobalt	50100		ng/l	50020		100	80-120			
Copper	1.93E6		ng/l	2.0020E6		96.4	80-120			
Lead	208000		ng/l	200060		104	80-120			
Manganese	478000		ng/l	498900		95.9	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	117000		ng/l	120040		97.3	80-120			
Selenium	19200		ng/l	20002		95.8	80-120			
Thallium	516		ng/l	499.95		103	80-120			
Vanadium	18800		ng/l	20030		93.9	80-120			
Zinc	476000		ng/l	500000		95.2	80-120			
Batch B5B1108 - ICP-MS Extraction										
Blank (B5B1108-BLK1)					Prepared & Analyzed: 02/11/25					
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Blank (B5B1108-BLK1) Continued				Prepared & Analyzed: 02/11/25						
Zinc	ND	114	ng/m³ Air							U
LCS (B5B1108-BS1)				Prepared & Analyzed: 02/11/25						
Antimony	0.936	0.0350	ng/m³ Air	1.3835		67.7	80-120			SL
Arsenic	2.71	0.00889	ng/m³ Air	2.7664		98.1	80-120			
Barium	28.3	1.54	ng/m³ Air	27.686		102	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.8	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	15.2	2.44	ng/m³ Air	13.832		110	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.2	80-120			
Copper	29.2	0.752	ng/m³ Air	27.686		106	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.9	80-120			
Manganese	8.44	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.47	0.394	ng/m³ Air	1.3831		106	80-120			
Nickel	2.96	0.739	ng/m³ Air	2.7667		107	80-120			
Selenium	2.75	0.0101	ng/m³ Air	2.7661		99.6	80-120			
Thallium	0.136	8.61E-4	ng/m³ Air	0.13828		98.1	80-120			
Vanadium	2.86	0.0458	ng/m³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B1108-BS2)				Prepared & Analyzed: 02/11/25						
Antimony	0.974	0.0350	ng/m³ Air	1.3835		70.4	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.8	80-120			
Barium	28.9	1.54	ng/m³ Air	27.686		104	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.3	80-120			
Cadmium	1.42	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	15.3	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.5	80-120			
Copper	29.1	0.752	ng/m³ Air	27.686		105	80-120			
Lead	13.9	0.134	ng/m³ Air	13.833		100	80-120			
Manganese	8.43	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.52	0.394	ng/m³ Air	1.3831		110	80-120			
Nickel	2.95	0.739	ng/m³ Air	2.7667		107	80-120			
Selenium	2.75	0.0101	ng/m³ Air	2.7661		99.3	80-120			
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		97.2	80-120			
Vanadium	2.89	0.0458	ng/m³ Air	2.7700		104	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B1108-BS3)				Prepared & Analyzed: 02/11/25						
Antimony	1.39	0.0350	ng/m³ Air	1.3835		100	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.7	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
LCS (B5B1108-BS3) Continued				Prepared & Analyzed: 02/11/25						
Barium	27.3	1.54	ng/m³ Air	27.686		98.5	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.7	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	14.7	2.44	ng/m³ Air	13.832		106	80-120			
Cobalt	1.35	0.0520	ng/m³ Air	1.3835		97.7	80-120			
Copper	28.3	0.752	ng/m³ Air	27.686		102	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		98.9	80-120			
Manganese	8.35	0.557	ng/m³ Air	8.2792		101	80-120			
Molybdenum	1.35	0.394	ng/m³ Air	1.3831		97.5	80-120			
Nickel	2.76	0.739	ng/m³ Air	2.7667		99.8	80-120			
Selenium	2.76	0.0101	ng/m³ Air	2.7661		99.9	80-120			
Thallium	0.133	8.61E-4	ng/m³ Air	0.13828		96.5	80-120			
Vanadium	2.86	0.0458	ng/m³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B1108-BS4)				Prepared & Analyzed: 02/11/25						
Antimony	1.38	0.0350	ng/m³ Air	1.3835		100	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.8	80-120			
Barium	28.2	1.54	ng/m³ Air	27.686		102	80-120			
Beryllium	1.35	0.00190	ng/m³ Air	1.3836		97.8	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	14.6	2.44	ng/m³ Air	13.832		106	80-120			
Cobalt	1.33	0.0520	ng/m³ Air	1.3835		96.2	80-120			
Copper	28.1	0.752	ng/m³ Air	27.686		101	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		99.0	80-120			
Manganese	8.31	0.557	ng/m³ Air	8.2792		100	80-120			
Molybdenum	1.36	0.394	ng/m³ Air	1.3831		98.1	80-120			
Nickel	2.74	0.739	ng/m³ Air	2.7667		99.0	80-120			
Selenium	2.79	0.0101	ng/m³ Air	2.7661		101	80-120			
Thallium	0.133	8.61E-4	ng/m³ Air	0.13828		96.0	80-120			
Vanadium	2.87	0.0458	ng/m³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5B1108-DUP1)		**Source: 5021031-10**		Prepared & Analyzed: 02/11/25						
Antimony	0.247	0.0281	ng/m³ Air		0.263			6.06	10	SL
Arsenic	0.194	0.00714	ng/m³ Air		0.205			5.56	10	
Barium	3.83	1.24	ng/m³ Air		4.00			4.45	10	
Beryllium	0.00699	0.00153	ng/m³ Air		0.00734			4.92	10	
Cadmium	0.0141	0.00411	ng/m³ Air		0.0171			18.8	10	
Chromium	ND	1.96	ng/m³ Air		ND				10	U

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Duplicate (B5B1108-DUP1) Continued			**Source: 5021031-10**		Prepared & Analyzed: 02/11/25					
Cobalt	0.225	0.0418	ng/m³ Air		0.229			1.80	10	
Copper	27.3	0.604	ng/m³ Air		27.0			1.20	10	
Lead	0.606	0.108	ng/m³ Air		0.520			15.2	10	
Manganese	6.74	0.448	ng/m³ Air		6.74			0.00442	10	
Molybdenum	0.744	0.317	ng/m³ Air		0.796			6.73	10	
Nickel	1.02	0.594	ng/m³ Air		1.15			12.1	10	
Selenium	0.181	0.00811	ng/m³ Air		0.176			3.01	10	
Thallium	0.00175	6.92E-4	ng/m³ Air		0.00198			12.5	10	
Vanadium	0.686	0.0368	ng/m³ Air		0.672			2.11	10	
Zinc	ND	91.6	ng/m³ Air		ND				10	U
Duplicate (B5B1108-DUP2)			**Source: 5021031-02**		Prepared & Analyzed: 02/11/25					
Antimony	0.0875	0.0266	ng/m³ Air		0.0964			9.73	10	SL
Arsenic	0.139	0.00677	ng/m³ Air		0.149			7.17	10	
Barium	1.95	1.17	ng/m³ Air		2.35			18.8	10	
Beryllium	0.00283	0.00145	ng/m³ Air		0.00372			27.3	10	
Cadmium	0.0301	0.00390	ng/m³ Air		0.0370			20.6	10	D-F
Chromium	ND	1.86	ng/m³ Air		ND				10	U
Cobalt	0.0894	0.0396	ng/m³ Air		0.0948			5.81	10	
Copper	63.8	0.572	ng/m³ Air		67.4			5.47	10	
Lead	0.373	0.102	ng/m³ Air		0.405			8.12	10	
Manganese	2.92	0.424	ng/m³ Air		3.03			3.58	10	
Molybdenum	1.63	0.300	ng/m³ Air		1.67			2.48	10	
Nickel	0.565	0.562	ng/m³ Air		0.649			13.8	10	
Selenium	0.297	0.00769	ng/m³ Air		0.307			3.40	10	
Thallium	0.00311	6.55E-4	ng/m³ Air		0.00308			0.752	10	
Vanadium	0.324	0.0349	ng/m³ Air		0.338			4.14	10	
Zinc	ND	86.8	ng/m³ Air		ND				10	U
Duplicate (B5B1108-DUP3)			**Source: 5021031-20**		Prepared: 02/11/25 Analyzed: 02/12/25					
Antimony	0.127	0.0307	ng/m³ Air		0.130			2.44	10	SL
Arsenic	0.232	0.00779	ng/m³ Air		0.240			3.39	10	
Barium	4.10	1.35	ng/m³ Air		4.18			1.79	10	
Beryllium	0.00824	0.00166	ng/m³ Air		0.00817			0.822	10	
Cadmium	0.0131	0.00449	ng/m³ Air		0.0136			3.83	10	
Chromium	2.82	2.14	ng/m³ Air		2.87			2.01	10	
Cobalt	0.279	0.0456	ng/m³ Air		0.283			1.47	10	
Copper	35.6	0.659	ng/m³ Air		36.2			1.70	10	
Lead	0.537	0.117	ng/m³ Air		0.546			1.66	10	
Manganese	7.83	0.488	ng/m³ Air		7.96			1.64	10	

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FILE #: 4205.00.003.001
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Duplicate (B5B1108-DUP3) Continued		**Source: 5021031-20**		Prepared: 02/11/25 Analyzed: 02/12/25						
Molybdenum	1.94	0.345	ng/m³ Air		1.97			1.35	10	
Nickel	1.60	0.647	ng/m³ Air		1.62			1.53	10	
Selenium	0.162	0.00885	ng/m³ Air		0.160			1.69	10	
Thallium	0.00121	7.54E-4	ng/m³ Air		0.00121			0.401	10	
Vanadium	0.900	0.0401	ng/m³ Air		0.923			2.51	10	
Zinc	ND	99.9	ng/m³ Air		ND				10	U
Duplicate (B5B1108-DUP4)		**Source: 5021031-25**		Prepared: 02/11/25 Analyzed: 02/12/25						
Antimony	0.112	0.0320	ng/m³ Air		0.116			3.16	10	SL
Arsenic	0.296	0.00813	ng/m³ Air		0.307			3.68	10	
Barium	4.01	1.41	ng/m³ Air		4.14			3.26	10	
Beryllium	0.0110	0.00174	ng/m³ Air		0.0109			0.767	10	
Cadmium	0.0176	0.00468	ng/m³ Air		0.0176			0.253	10	
Chromium	2.31	2.23	ng/m³ Air		2.34			1.25	10	
Cobalt	0.370	0.0476	ng/m³ Air		0.375			1.47	10	
Copper	68.6	0.688	ng/m³ Air		70.3			2.38	10	
Lead	0.550	0.123	ng/m³ Air		0.561			1.90	10	
Manganese	11.2	0.509	ng/m³ Air		11.2			0.328	10	
Molybdenum	1.94	0.360	ng/m³ Air		1.96			0.929	10	
Nickel	1.34	0.676	ng/m³ Air		1.36			1.21	10	
Selenium	0.169	0.00924	ng/m³ Air		0.175			3.41	10	
Thallium	0.00133	7.87E-4	ng/m³ Air		0.00126			5.71	10	
Vanadium	1.18	0.0419	ng/m³ Air		1.20			1.96	10	
Zinc	ND	104	ng/m³ Air		ND				10	U
Matrix Spike (B5B1108-MS1)		**Source: 5021031-10**		Prepared & Analyzed: 02/11/25						
Antimony	0.944	0.0281	ng/m³ Air	1.1116	0.263	61.3	80-120			SL
Arsenic	2.39	0.00714	ng/m³ Air	2.2227	0.205	98.3	80-120			
Barium	26.7	1.24	ng/m³ Air	22.245	4.00	102	80-120			
Beryllium	1.03	0.00153	ng/m³ Air	1.1117	0.00734	91.8	80-120			
Cadmium	1.15	0.00411	ng/m³ Air	1.1119	0.0171	102	80-120			
Chromium	13.4	1.96	ng/m³ Air	11.113	ND	120	80-120			
Cobalt	1.33	0.0418	ng/m³ Air	1.1116	0.229	99.3	80-120			
Copper	48.2	0.604	ng/m³ Air	22.245	27.0	95.2	80-120			
Lead	11.8	0.108	ng/m³ Air	11.115	0.520	101	80-120			
Manganese	13.5	0.448	ng/m³ Air	6.6521	6.74	102	80-120			
Molybdenum	1.87	0.317	ng/m³ Air	1.1112	0.796	96.8	80-120			
Nickel	3.35	0.594	ng/m³ Air	2.2229	1.15	99.4	80-120			
Selenium	2.38	0.00811	ng/m³ Air	2.2225	0.176	99.2	80-120			
Thallium	0.109	6.92E-4	ng/m³ Air	0.11110	0.00198	96.5	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Matrix Spike (B5B1108-MS1) Continued Source: 5021031-10 Prepared & Analyzed: 02/11/25										
Vanadium	2.98	0.0368	ng/m³ Air	2.2256	0.672	104	80-120			
Zinc	ND	91.6	ng/m³ Air	66.667	ND		80-120			U
Matrix Spike (B5B1108-MS2) Source: 5021031-02 Prepared & Analyzed: 02/11/25										
Antimony	0.769	0.0266	ng/m³ Air	1.0529	0.0964	63.9	80-120			SL
Arsenic	2.19	0.00677	ng/m³ Air	2.1054	0.149	97.0	80-120			
Barium	23.2	1.17	ng/m³ Air	21.071	2.35	98.8	80-120			
Beryllium	1.03	0.00145	ng/m³ Air	1.0530	0.00372	97.2	80-120			
Cadmium	1.07	0.00390	ng/m³ Air	1.0532	0.0370	97.9	80-120			
Chromium	13.7	1.86	ng/m³ Air	10.527	ND	130	80-120			
Cobalt	1.10	0.0396	ng/m³ Air	1.0529	0.0948	95.4	80-120			
Copper	91.4	0.572	ng/m³ Air	21.071	67.4	114	80-120			
Lead	10.8	0.102	ng/m³ Air	10.528	0.405	98.6	80-120			
Manganese	8.81	0.424	ng/m³ Air	6.3012	3.03	91.7	80-120			
Molybdenum	2.76	0.300	ng/m³ Air	1.0526	1.67	104	80-120			
Nickel	2.73	0.562	ng/m³ Air	2.1056	0.649	98.8	80-120			
Selenium	2.36	0.00769	ng/m³ Air	2.1052	0.307	97.6	80-120			
Thallium	0.102	6.55E-4	ng/m³ Air	0.10524	0.00308	93.5	80-120			
Vanadium	2.39	0.0349	ng/m³ Air	2.1082	0.338	97.3	80-120			
Zinc	ND	86.8	ng/m³ Air	63.151	ND		80-120			U
Matrix Spike Dup (B5B1108-MSD1) Source: 5021031-10 Prepared & Analyzed: 02/11/25										
Antimony	0.909	0.0281	ng/m³ Air	1.1116	0.263	58.1	80-120	3.79	20	SL
Arsenic	2.39	0.00714	ng/m³ Air	2.2227	0.205	98.3	80-120	0.0560	20	
Barium	26.4	1.24	ng/m³ Air	22.245	4.00	101	80-120	1.02	20	
Beryllium	1.08	0.00153	ng/m³ Air	1.1117	0.00734	96.8	80-120	5.23	20	
Cadmium	1.16	0.00411	ng/m³ Air	1.1119	0.0171	102	80-120	0.309	20	
Chromium	13.6	1.96	ng/m³ Air	11.113	ND	122	80-120	1.53	20	
Cobalt	1.34	0.0418	ng/m³ Air	1.1116	0.229	99.6	80-120	0.305	20	
Copper	48.9	0.604	ng/m³ Air	22.245	27.0	98.5	80-120	1.51	20	
Lead	11.8	0.108	ng/m³ Air	11.115	0.520	102	80-120	0.225	20	
Manganese	13.6	0.448	ng/m³ Air	6.6521	6.74	103	80-120	0.361	20	
Molybdenum	1.85	0.317	ng/m³ Air	1.1112	0.796	94.6	80-120	1.30	20	
Nickel	3.37	0.594	ng/m³ Air	2.2229	1.15	100	80-120	0.414	20	
Selenium	2.40	0.00811	ng/m³ Air	2.2225	0.176	100	80-120	0.973	20	
Thallium	0.109	6.92E-4	ng/m³ Air	0.11110	0.00198	96.5	80-120	0.0152	20	
Vanadium	2.98	0.0368	ng/m³ Air	2.2256	0.672	104	80-120	0.0905	20	
Zinc	ND	91.6	ng/m³ Air	66.667	ND		80-120		20	U
Matrix Spike Dup (B5B1108-MSD2) Source: 5021031-02 Prepared & Analyzed: 02/11/25										
Antimony	0.786	0.0266	ng/m³ Air	1.0529	0.0964	65.5	80-120	2.26	20	SL

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Matrix Spike Dup (B5B1108-MSD2) Conti			**Source: 5021031-02**		Prepared & Analyzed: 02/11/25					
Arsenic	2.27	0.00677	ng/m³ Air	2.1054	0.149	101	80-120	3.41	20	
Barium	23.0	1.17	ng/m³ Air	21.071	2.35	98.0	80-120	0.723	20	
Beryllium	1.04	0.00145	ng/m³ Air	1.0530	0.00372	98.3	80-120	1.11	20	
Cadmium	1.09	0.00390	ng/m³ Air	1.0532	0.0370	99.6	80-120	1.66	20	
Chromium	12.0	1.86	ng/m³ Air	10.527	ND	114	80-120	13.5	20	
Cobalt	1.11	0.0396	ng/m³ Air	1.0529	0.0948	96.5	80-120	1.06	20	
Copper	93.9	0.572	ng/m³ Air	21.071	67.4	126	80-120	2.74	20	QM-07
Lead	11.1	0.102	ng/m³ Air	10.528	0.405	102	80-120	3.28	20	
Manganese	8.59	0.424	ng/m³ Air	6.3012	3.03	88.3	80-120	2.50	20	
Molybdenum	2.81	0.300	ng/m³ Air	1.0526	1.67	109	80-120	1.78	20	
Nickel	2.64	0.562	ng/m³ Air	2.1056	0.649	94.6	80-120	3.25	20	
Selenium	2.40	0.00769	ng/m³ Air	2.1052	0.307	99.5	80-120	1.68	20	
Thallium	0.105	6.55E-4	ng/m³ Air	0.10524	0.00308	96.5	80-120	3.05	20	
Vanadium	2.40	0.0349	ng/m³ Air	2.1082	0.338	98.0	80-120	0.603	20	
Zinc	ND	86.8	ng/m³ Air	63.151	ND		80-120		20	U
Post Spike (B5B1108-PS1)			**Source: 5021031-10**		Prepared & Analyzed: 02/11/25					
Antimony	0.478	0.0281	ng/m³ Air	0.22222	0.263	96.7	75-125			SL
Arsenic	1.26	0.00714	ng/m³ Air	1.1111	0.205	94.8	75-125			
Barium	6.08	1.24	ng/m³ Air	2.2222	4.00	93.6	75-125			
Beryllium	0.228	0.00153	ng/m³ Air	0.22222	0.00734	99.3	75-125			
Cadmium	0.127	0.00411	ng/m³ Air	0.11111	0.0171	99.3	75-125			
Chromium	3.02	1.96	ng/m³ Air	1.1111	ND	272	75-125			
Cobalt	0.437	0.0418	ng/m³ Air	0.22222	0.229	93.9	75-125			
Copper	37.8	0.604	ng/m³ Air	11.111	27.0	97.6	75-125			
Lead	22.6	0.108	ng/m³ Air	22.222	0.520	99.2	75-125			
Manganese	8.65	0.448	ng/m³ Air	2.2222	6.74	85.9	75-125			
Molybdenum	1.82	0.317	ng/m³ Air	1.1111	0.796	92.6	75-125			
Nickel	3.23	0.594	ng/m³ Air	2.2222	1.15	93.8	75-125			
Selenium	1.22	0.00811	ng/m³ Air	1.1111	0.176	93.8	75-125			
Thallium	0.0550	6.92E-4	ng/m³ Air	5.5556E-2	0.00198	95.5	75-125			
Vanadium	1.76	0.0368	ng/m³ Air	1.1111	0.672	97.5	75-125			
Zinc	ND	91.6	ng/m³ Air	22.222	ND		75-125			U
Post Spike (B5B1108-PS2)			**Source: 5021031-02**		Prepared & Analyzed: 02/11/25					
Antimony	0.316	0.0266	ng/m³ Air	0.21050	0.0964	104	75-125			SL
Arsenic	1.20	0.00677	ng/m³ Air	1.0525	0.149	99.6	75-125			
Barium	4.54	1.17	ng/m³ Air	2.1050	2.35	104	75-125			
Beryllium	0.205	0.00145	ng/m³ Air	0.21050	0.00372	95.6	75-125			
Cadmium	0.147	0.00390	ng/m³ Air	0.10525	0.0370	104	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Post Spike (B5B1108-PS2) Continued		**Source: 5021031-02**		Prepared & Analyzed: 02/11/25						
Chromium	2.30	1.86	ng/m³ Air	1.0525	ND	218	75-125			
Cobalt	0.308	0.0396	ng/m³ Air	0.21050	0.0948	101	75-125			
Copper	80.7	0.572	ng/m³ Air	10.525	67.4	126	75-125			A-01
Lead	22.2	0.102	ng/m³ Air	21.050	0.405	103	75-125			
Manganese	5.13	0.424	ng/m³ Air	2.1050	3.03	99.9	75-125			
Molybdenum	2.74	0.300	ng/m³ Air	1.0525	1.67	102	75-125			
Nickel	2.75	0.562	ng/m³ Air	2.1050	0.649	99.8	75-125			
Selenium	1.38	0.00769	ng/m³ Air	1.0525	0.307	102	75-125			
Thallium	0.0547	6.55E-4	ng/m³ Air	5.2625E-2	0.00308	98.0	75-125			
Vanadium	1.42	0.0349	ng/m³ Air	1.0525	0.338	103	75-125			
Zinc	ND	86.8	ng/m³ Air	21.050	ND		75-125			U
Dilution Check (B5B1108-SRL1)		**Source: 5021031-10**		Prepared & Analyzed: 02/11/25						
Antimony	0.255	0.141	ng/m³ Air		0.263			2.88	10	SL
Arsenic	0.203	0.0357	ng/m³ Air		0.205			0.691	10	
Barium	ND	6.19	ng/m³ Air		ND				10	U
Beryllium	ND	0.00763	ng/m³ Air		ND				10	U
Cadmium	ND	0.0206	ng/m³ Air		ND				10	U
Chromium	ND	9.80	ng/m³ Air		ND				10	U
Cobalt	0.232	0.209	ng/m³ Air		0.229			1.26	10	
Copper	27.5	3.02	ng/m³ Air		27.0			1.96	10	
Lead	ND	0.538	ng/m³ Air		ND				10	U
Manganese	6.83	2.24	ng/m³ Air		6.74			1.24	10	
Molybdenum	ND	1.58	ng/m³ Air		ND				10	U
Nickel	ND	2.97	ng/m³ Air		ND				10	U
Selenium	0.187	0.0406	ng/m³ Air		0.176			6.06	10	
Thallium	ND	0.00346	ng/m³ Air		ND				10	U
Vanadium	0.753	0.184	ng/m³ Air		0.672			11.4	10	
Zinc	ND	458	ng/m³ Air		ND				10	U
Dilution Check (B5B1108-SRL2)		**Source: 5021031-02**		Prepared & Analyzed: 02/11/25						
Antimony	ND	0.133	ng/m³ Air		ND				10	SL, U
Arsenic	0.146	0.0338	ng/m³ Air		0.149			1.96	10	
Barium	ND	5.86	ng/m³ Air		ND				10	U
Beryllium	ND	0.00723	ng/m³ Air		ND				10	U
Cadmium	0.0386	0.0195	ng/m³ Air		0.0370			4.26	10	
Chromium	ND	9.29	ng/m³ Air		ND				10	U
Cobalt	ND	0.198	ng/m³ Air		ND				10	U
Copper	69.4	2.86	ng/m³ Air		67.4			2.88	10	
Lead	ND	0.510	ng/m³ Air		ND				10	U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B1108 - ICP-MS Extraction										
Dilution Check (B5B1108-SRL2) ContinueSource: 5021031-02 Prepared & Analyzed: 02/11/25										
Manganese	3.23	2.12	ng/m³ Air		3.03			6.27	10	
Molybdenum	1.68	1.50	ng/m³ Air		1.67			0.647	10	
Nickel	ND	2.81	ng/m³ Air		ND				10	U
Selenium	0.305	0.0384	ng/m³ Air		0.307			0.481	10	
Thallium	0.00485	0.00328	ng/m³ Air		ND			44.6	10	
Vanadium	0.388	0.174	ng/m³ Air		0.338			13.8	10	
Zinc	ND	434	ng/m³ Air		ND				10	U

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/20/2025 and Shanna Vasser 02/21/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 01/30/2025 -02/05/2025
Report No: 5021031

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for copper in MFL-FB01-013025-HM, for antimony and copper in MFL-FB01-020325-HM, and for arsenic, copper, and vanadium in MFL-FB01-020525-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

February 6 through February 12, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from February 6 through February 12, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)
- Maria Lanakila Catholic Church (AM-09)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 6 through February 12, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of equipment maintenance, the air monitoring period was interrupted at Okupea Townhomes, WW Pump Station #4, and Lahaina Pump Station #6, for one hour on February 12, resulting in the collection of 23 hours of PM_{10} data.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on February 6 through 8 and 11 through 12
- WW Pump Station #4 on February 7 through 8 and 10 through 12
- Lahaina Pump Station #6 on February 6 through 8 and 10 through 12
- Maria Lanakila Catholic Church on February 6 through 7 and 11 through 12

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

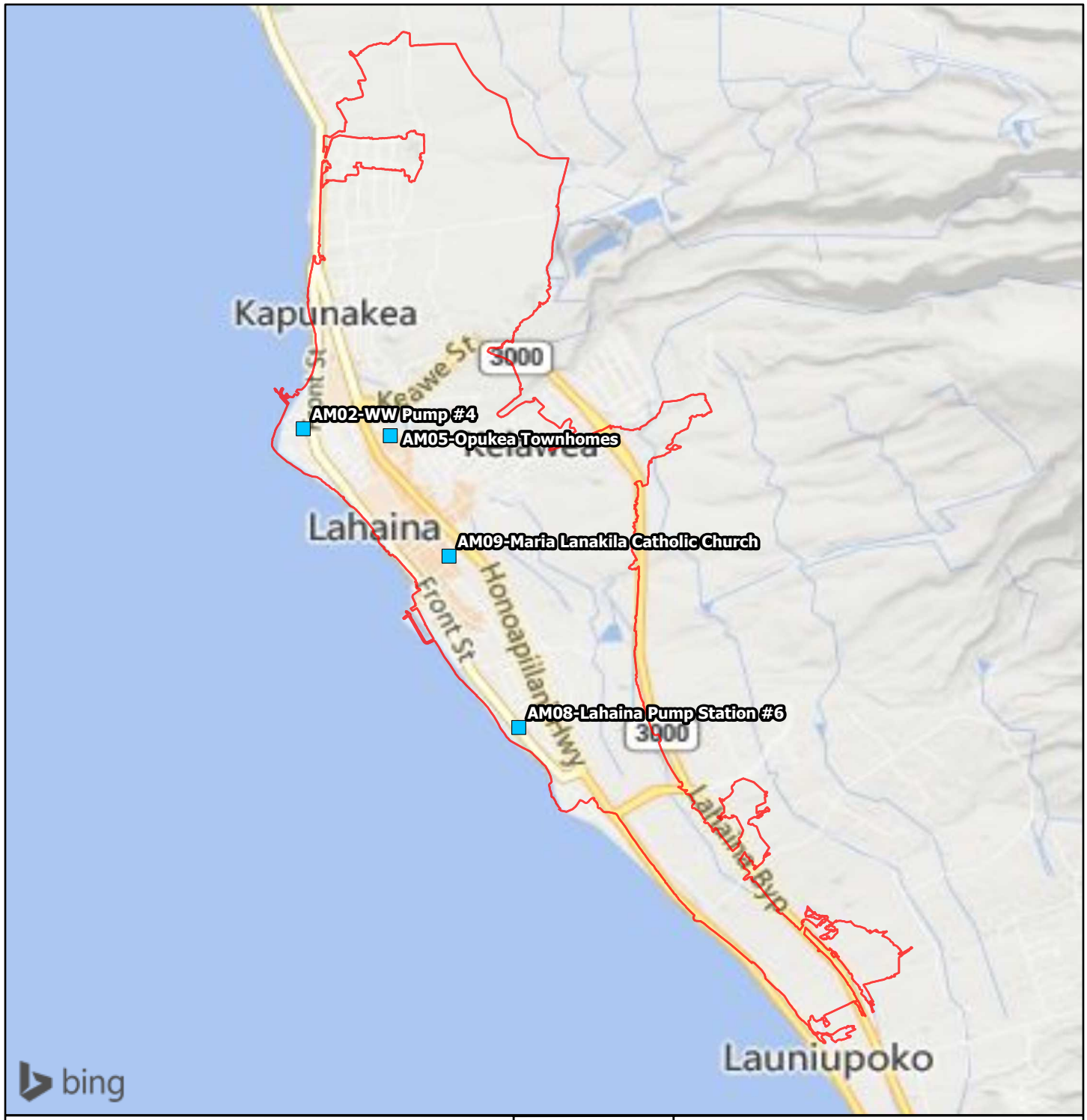
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Lahaina Fire Perimeter

Air Sampling Locations

N

0 0.25 0.5

Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Path: \\etss706gisfs1\CORPArcGisShare\EMI\Denver\Lahaina_Fire\Lahaina_Fire\Lahaina_Fire.aprx\Lahaina_Fire_AM01-AM09

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
February 6 through February 12, 2025

Screening Level		TWA Results 150 (µg/m³)
2/6/2025	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	8.5
	Maria Lanakila Catholic Church (AM-09)	12
	Lahaina Pump Station #6 (AM-08)	9.1
2/7/2025	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	7.8
	Maria Lanakila Catholic Church (AM-09)	16
	Lahaina Pump Station #6 (AM-08)	8.2
2/8/2025	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	7.3
	Maria Lanakila Catholic Church (AM-09)	8.5
	Lahaina Pump Station #6 (AM-08)	8.7
2/9/2025	Opukea Townhomes (AM-05)	9.3
	WW Pump Station #4 (AM-02)	5.7
	Maria Lanakila Catholic Church (AM-09)	14
	Lahaina Pump Station #6 (AM-08)	7.2
2/10/2025	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	6.8
	Maria Lanakila Catholic Church (AM-09)	14
	Lahaina Pump Station #6 (AM-08)	10
2/11/2025	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.9
	Maria Lanakila Catholic Church (AM-09)	13
	Lahaina Pump Station #6 (AM-08)	10
2/12/2025	Opukea Townhomes (AM-05)	14*
	WW Pump Station #4 (AM-02)	7.7*
	Maria Lanakila Catholic Church (AM-09)	9.6
	Lahaina Pump Station #6 (AM-08)	8.5*

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* These results were a 23-hour TWA due to an interrupted monitoring period

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
February 6 through February 12, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
2/6/2025	Opukea Townhomes (AM-05)	<0.0024	0.000213	0.000586	0.00887	0.0000299	0.0000372	0.00404	0.000925	0.0391	0.000989	0.0347	0.00136	0.00294	0.000208	0.00000303	0.00285	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000597	0.000279	0.0103	0.0000155	0.0000196	0.00240	0.000461	0.0546	0.000849	0.0149	0.00276	0.00166	0.000180	0.00000169	0.00144	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.000188	0.000247	0.00468	0.00000967	0.0000148	0.00258	0.000291	0.0313	0.000797	0.00877	0.00153	0.00153	0.000140	0.00000133	0.000770	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000172	0.000209	0.00320	0.00000507	0.0000167	ND	0.000148	0.0635	0.000439	0.00498	0.00217	0.000943	0.000105	0.00000116	0.000448	ND
2/7/2025	Opukea Townhomes (AM-05)	<0.0024	0.000101	0.000189	0.00334	0.00000607	0.0000410	ND	0.000195	0.0324	0.000540	0.00641	0.00133	0.00110	0.000292	0.00000283	0.000697	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000376	0.000241	0.00654	0.00000968	0.0000734	0.00278	0.000337	0.0515	0.000716	0.00996	0.00281	0.00232	0.000337	0.00000302	0.00108	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000854	0.000146	0.00279	0.00000508	0.0000291	ND	0.000168	0.0174	0.000297	0.00442	0.00105	0.00166	0.000187	0.00000171	0.000453	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000159	0.000410	0.00417	0.00000965	0.0000412	ND	0.000313	0.0432	0.000874	0.0104	0.00235	0.00151	0.000327	0.00000281	0.00106	ND
2/8/2025	Opukea Townhomes (AM-05)	<0.0024	0.000128	0.000258	0.00370	0.00000739	0.0000210	ND	0.000178	0.0305	0.000541	0.00709	0.00144	0.000990	0.000190	0.00000257	0.000825	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000540	0.000290	0.00546	0.0000101	0.0000477	ND	0.000251	0.0526	0.000670	0.00932	0.00303	0.00116	0.000210	0.00000300	0.00108	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000119	0.000341	0.00409	0.0000116	0.0000215	0.00278	0.000251	0.0244	0.000780	0.00972	0.00148	0.00112	0.000221	0.00000275	0.000943	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000389	0.00357	0.00000872	0.0000199	ND	0.000223	0.0334	0.000797	0.00842	0.00216	0.00103	0.000200	0.00000259	0.000875	ND
2/9/2025	Opukea Townhomes (AM-05)	<0.0024	0.000121	0.000366	0.00353	0.00000902	0.0000188	ND	0.000214	0.0252	0.000600	0.00889	0.00127	0.000935	0.000150	0.00000257	0.000837	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000308	0.000450	0.00588	0.0000134	0.0000219	0.00205	0.000321	0.0533	0.00103	0.0121	0.00317	0.00159	0.000196	0.00000262	0.00119	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000113	0.000428	0.00409	0.00000821	0.0000211	ND	0.000175	0.0205	0.000650	0.00747	0.00124	0.00104	0.000177	0.00000251	0.000717	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000151	0.000407	0.00291	0.00000745	0.0000224	ND	0.000142	0.0327	0.000587	0.00635	0.00224	0.000840	0.000172	0.00000261	0.000645	ND
2/10/2025	Opukea Townhomes (AM-05)	<0.0024	0.000122	0.000353	0.00381	0.00000762	0.0000702	0.00197	0.000253	0.0303	0.000652	0.00899	0.00163	0.00145	0.000204	0.00000191	0.00101	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000151	0.000355	0.00447	0.00000951	0.0000190	0.00217	0.000261	0.0592	0.000651	0.00918	0.00350	0.00127	0.000224	0.00000245	0.00114	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000119	0.000311	0.00298	0.00000555	0.0000145	ND	0.000141	0.0247	0.000543	0.00508	0.00161	0.000925	0.000197	0.00000184	0.000739	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000107	0.000292	0.00286	0.00000588	0.0000121	ND	0.000143	0.0477	0.000435	0.00540	0.00272	0.000694	0.000188	0.00000174	0.000832	ND
2/11/2025	Opukea Townhomes (AM-05)	<0.0024	0.000172	0.000217	0.00463	0.00000991	0.0000409	ND	0.000283	0.0232	0.000446	0.00975	0.00131	0.00109	0.000205	0.00000205	0.00104	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000307	0.000619	0.00911	0.0000221	0.0000234	0.00297	0.000765	0.0762	0.000951	0.0216	0.00391	0.00237	0.000276	0.00000230	0.00248	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000133	0.000260	0.00385	0.00000890	0.0000168	ND	0.000248	0.0242	0.000698	0.00826	0.00122	0.000944	0.000216	0.00000210	0.000846	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000118	0.000257	0.00349	0.00000741	0.0000151	ND	0.000209	0.0470	0.000437	0.00712	0.00278	0.000733	0.000210	0.00000198	0.000727	ND
2/12/2025	Opukea Townhomes (AM-05)	<0.0024	0.000121	0.000230	0.00406	0.00000859	0.0000204	ND	0.000238	0.0345	0.000445	0.00860	0.00194	0.000967	0.000297	0.00000255	0.00103	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000187	0.000288	0.00517	0.0000114	0.0000284	ND	0.000312	0.0660	0.000614	0.0105	0.00334	0.00122	0.000324	0.00000263	0.00128	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000106	0.000244	0.00307	0.00000762	0.0000206	ND	0.000189	0.0339	0.000581	0.00667	0.00167	0.000903	0.000289	0.00000271	0.000929	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000111	0.000287	0.00288	0.00000782	0.0000185	ND	0.000202	0.0370	0.000423	0.00756	0.00229	0.000871	0.000277	0.00000244	0.00111	ND
95% Upper Confidence Limit[2]		NA	0.000220	0.000360	0.00513	0.0000110	0.0000320	0.00306	0.000320	0.0455	0.000720	0.0112	0.00243	0.00144	0.000240	0.00000260	0.00119	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 6 through February 12, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/6/2025	AM-02	WW Pump Station #4	0.9	ESE	74	66	762.5
2/6/2025	AM-09	Maria Lanakila Catholic Church	1.1	ESE	73	69	761.7
2/6/2025	AM-05	Opukea Townhomes	1.1	SE	74	66	762.1
2/6/2025	AM-08	Lahaina Pump Station #6	1.5	ESE	72	68	762.1
2/7/2025	AM-02	WW Pump Station #4	1.0	SE	75	68	763.0
2/7/2025	AM-09	Maria Lanakila Catholic Church	1.0	SE	74	70	762.3
2/7/2025	AM-05	Opukea Townhomes	1.3	SE	75	68	762.5
2/7/2025	AM-08	Lahaina Pump Station #6	1.6	SE	73	69	762.6
2/8/2025	AM-02	WW Pump Station #4	1.0	SE	75	63	763.3
2/8/2025	AM-09	Maria Lanakila Catholic Church	1.2	SSE	74	65	762.6
2/8/2025	AM-05	Opukea Townhomes	1.1	ESE	75	63	762.8
2/8/2025	AM-08	Lahaina Pump Station #6	1.7	SSE	73	64	762.9
2/9/2025	AM-02	WW Pump Station #4	1.2	SSE	76	64	763.6
2/9/2025	AM-09	Maria Lanakila Catholic Church	1.1	SSE	76	65	762.9
2/9/2025	AM-05	Opukea Townhomes	1.4	SSE	76	64	763.1
2/9/2025	AM-08	Lahaina Pump Station #6	1.8	SSE	75	65	763.2
2/10/2025	AM-02	WW Pump Station #4	0.9	SE	76	67	764.4
2/10/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	75	68	763.6
2/10/2025	AM-05	Opukea Townhomes	1.2	SE	76	67	763.8
2/10/2025	AM-08	Lahaina Pump Station #6	1.6	SE	75	67	764.0
2/11/2025	AM-02	WW Pump Station #4	0.8	SSE	77	66	764.9
2/11/2025	AM-09	Maria Lanakila Catholic Church	1.2	SSE	76	66	764.1
2/11/2025	AM-05	Opukea Townhomes	1.3	ESE	77	65	764.2
2/11/2025	AM-08	Lahaina Pump Station #6	1.3	SSE	75	66	764.4
2/12/2025	AM-02	WW Pump Station #4	0.9	SSE	76	69	763.1
2/12/2025	AM-09	Maria Lanakila Catholic Church	1.2	SSE	75	70	762.5
2/12/2025	AM-05	Opukea Townhomes	1.0	ESE	77	68	762.5
2/12/2025	AM-08	Lahaina Pump Station #6	1.6	SSE	76	68	762.8

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/17/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020625-AB**		**Sample Description:**	**TEM0682898**
EMSL Sample Number:	042502693-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7109.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0001 **Customer Sample:** MFL-AM05-020625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	I9	None Detected									
B2	G5	None Detected									
B2	D2	None Detected									
B3	F3	None Detected									
B3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/17/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020625-AB**		**Sample Description:**	**TEM0682794**
EMSL Sample Number:	042502693-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0002 **Customer Sample:** MFL-AM02-020625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	F1	None Detected									
B5	C3	None Detected									
B6	C9	None Detected									
B6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/17/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020625-AB**		**Sample Description:**	**TEM0683115**
EMSL Sample Number:	042502693-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7045.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0003 **Customer Sample:** MFL-AM09-020625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	H2	None Detected									
C2	F4	None Detected									
C2	C7	None Detected									
C3	B5	None Detected									
C3	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020625-AB**		**Sample Description:**	**TEM0682803**
EMSL Sample Number:	042502693-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0004 **Customer Sample:** MFL-AM08-020625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B6	None Detected									
C5	D4	None Detected									
C5	G6	None Detected									
C6	B9	None Detected									
C6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020625-AB**		**Sample Description:**	**TEM0682932**
EMSL Sample Number:	042502693-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042502693**
Client:	**Tetra Tech**
Project ID:	**Maui Fires Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0005 **Customer Sample:** MFL-FB01-020625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A9	None Detected									
D2	C8	None Detected									
D2	E10	None Detected									
D2	G5	None Detected									
D2	I8	None Detected									
D3	J2	None Detected									
D3	H5	None Detected									
D3	F2	None Detected									
D3	D4	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020725-AB**		**Sample Description:**	**TEM0682787**
EMSL Sample Number:	042502693-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7260.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0006 **Customer Sample:** MFL-AM05-020725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A8	None Detected									
D5	D7	None Detected									
D5	G5	None Detected									
D6	G6	None Detected									
D6	D9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020725-AB**		**Sample Description:**	**TEM0683060**
EMSL Sample Number:	042502693-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0007 **Customer Sample:** MFL-AM02-020725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I6	None Detected									
E2	F3	None Detected									
E2	C5	None Detected									
E3	C7	None Detected									
E3	H10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020725-AB**		**Sample Description:**	**TEM0682863**
EMSL Sample Number:	042502693-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7346.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0008 **Customer Sample:** MFL-AM09-020725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I2	None Detected									
E5	G5	None Detected									
E5	E7	None Detected									
E6	A7	None Detected									
E6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020725-AB**		**Sample Description:**	**TEM0682751**
EMSL Sample Number:	042502693-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7333.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0009 **Customer Sample:** MFL-AM08-020725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	B8	None Detected									
F2	E7	None Detected									
F2	H6	None Detected									
F3	G6	None Detected									
F3	D10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020725-AB**		**Sample Description:**	**TEM0683068**
EMSL Sample Number:	042502693-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0010 **Customer Sample:** MFL-FB01-020725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A6	None Detected									
F5	C5	None Detected									
F5	E7	None Detected									
F5	G7	None Detected									
F5	I4	None Detected									
F6	J4	None Detected									
F6	H5	None Detected									
F6	F2	None Detected									
F6	D5	None Detected									
F6	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020825-AB**		**Sample Description:**	**TEM0682913**
EMSL Sample Number:	042502693-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0011 **Customer Sample:** MFL-AM05-020825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B8	None Detected									
G2	E4	None Detected									
G2	H8	None Detected									
G3	H5	None Detected									
G3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020825-AB**		**Sample Description:**	**TEM0682868**
EMSL Sample Number:	042502693-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0012 **Customer Sample:** MFL-AM02-020825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	D5	None Detected									
G5	G7	None Detected									
G5	J6	None Detected									
G6	C5	None Detected									
G6	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020825-AB**		**Sample Description:**	**TEM0682892**
EMSL Sample Number:	042502693-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0013 **Customer Sample:** MFL-AM09-020825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	I5	None Detected									
H2	G3	None Detected									
H2	D6	None Detected									
H3	I7	None Detected									
H3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020825-AB**		**Sample Description:**	**TEM0682885**
EMSL Sample Number:	042502693-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0014 **Customer Sample:** MFL-AM08-020825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B7	None Detected									
H5	E4	None Detected									
H5	I3	None Detected									
H6	I6	None Detected									
H6	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020825-AB**		**Sample Description:**	**TEM0683139**
EMSL Sample Number:	042502693-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0015 **Customer Sample:** MFL-FB01-020825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A9	None Detected									
I2	C7	None Detected									
I2	E9	None Detected									
I2	G6	None Detected									
I2	I8	None Detected									
I3	J4	None Detected									
I3	H1	None Detected									
I3	F1	None Detected									
I3	D5	None Detected									
I3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-020925-AB**		**Sample Description:**	**TEM0683030**
EMSL Sample Number:	042502693-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7236.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0016 **Customer Sample:** MFL-AM05-020925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I6	A4	None Detected									
I6	D5	None Detected									
I6	G3	None Detected									
I7	J6	None Detected									
I7	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020925-AB**		**Sample Description:**	**TEM0683171**
EMSL Sample Number:	042502693-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7262.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0017 **Customer Sample:** MFL-AM02-020925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	H2	None Detected									
J2	D7	None Detected									
J2	B9	None Detected									
J3	C3	None Detected									
J3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	02/13/2025 09:30 AM
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Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-020925-AB**		**Sample Description:**	**TEM0683155**
EMSL Sample Number:	042502693-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0018 **Customer Sample:** MFL-AM09-020925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I6	None Detected									
J5	G3	None Detected									
J5	D6	None Detected									
J6	B5	None Detected									
J6	I3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-020925-AB**		**Sample Description:**	**TEM0682737**
EMSL Sample Number:	042502693-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0019 **Customer Sample:** MFL-AM08-020925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	C3	None Detected									
K2	F7	None Detected									
K2	H4	None Detected									
K3	C5	None Detected									
K3	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/18/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020925-AB**		**Sample Description:**	**TEM0682910**
EMSL Sample Number:	042502693-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0020 **Customer Sample:** MFL-FB01-020925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A2	None Detected									
K5	C1	None Detected									
K5	E4	None Detected									
K5	G1	None Detected									
K5	I2	None Detected									
K6	J10	None Detected									
K6	H5	None Detected									
K6	F8	None Detected									
K6	C5	None Detected									
K6	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502693
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/13/2025 09:30 AM
Analysis Date:	02/17/2025
Report Date:	02/19/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042502693-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502693
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502693-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J3	None Detected									
A1	H6	None Detected									
A1	F9	None Detected									
A1	D7	None Detected									
A1	B5	None Detected									
A2	J6	None Detected									
A2	H7	None Detected									
A2	F10	None Detected									
A2	D7	None Detected									
A2	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502693

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

RECEIVED
25 FEB 13 AM 10:18
EMSL CINNAMINSON, NJ

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Sirena Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-020625-AB	TEM0682898	7,109.466	02/06/25 1053
MFL-AM02-020625-AB	TEM0682794	7,056.967	02/06/25 1112
MFL-AM09-020625-AB	TEM0683115	7,045.069	02/06/25 1127
MFL-AM08-020625-AB	TEM0682803	7,129.549	02/06/25 1140
MFL-FB01-020625-AB	TEM0682932	0	02/06/25 1200
MFL-AM05-020725-AB	TEM0682787	7,260.485	02/07/25 1050
MFL-AM02-020725-AB	TEM0683060	7,175.597	02/07/25 1105
MFL-AM09-020725-AB	TEM0682863	7,346.812	02/07/25 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 2/10/25 1100
Received by: FedEx Date/Time 2/13/25 9:30A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502693

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-020725-AB	TEM0682751	7,333.586	02/07/25 1306
MFL-FB01-020725-AB	TEM068 3068	0	02/07/25 1200
MFL-AM05-020825-AB	TEM0682913	7,216.185	02/08/25 1052
MFL-AM02-020825-AB	TEM0682868	7,215.264	02/08/25 1109
MFL-AM09-020825-AB	TEM0682892	7,152.468	02/08/25 1254
MFL-AM08-020825-AB	TEM0682885	7,195.940	02/08/25 1308
MFL-FB01-020825-AB	TEM0683139	0	02/08/25 1200
MFL-AM05-020925-AB	TEM0683030	7,236.879	02/09/25 1052
MFL-AM02-020925-AB	TEM0683171	7,262,636	02/09/25 1106
MFL-AM09-020925-AB	TEM0683155	7,209.584	02/09/25 1251
MFL-AM08-020925-AB	TEM0682737	7,243.737	02/09/24 1306
MFL-FB01-020925-AB	TEM0682910	0	02/09/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 FEB 13 AM 10:38

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 2/10/25 1100	Received by: FedEx	Date/Time 2/13/25 9130A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-08 Asbestos R16 10/29/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/19/2025 and Shanna Vasser 02/19/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/06/2025 – 02/09/2025
Report No: 42502693

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/19/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021025-AB**		**Sample Description:**	**TEM0682822**
EMSL Sample Number:	042502869-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7262.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0001 **Customer Sample:** MFL-AM05-021025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C7	None Detected									
B1	D8	None Detected									
B3	J6	None Detected									
B3	I5	None Detected									
B4	A2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/19/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021025-AB**		**Sample Description:**	**TEM0682926**
EMSL Sample Number:	042502869-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0002 **Customer Sample:** MFL-AM02-021025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J7	None Detected									
B5	H6	None Detected									
B6	I4	None Detected									
B6	G3	None Detected									
B7	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/19/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021025-AB**		**Sample Description:**	**TEM0682902**
EMSL Sample Number:	042502869-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0003 **Customer Sample:** MFL-AM09-021025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A4	None Detected									
C1	B5	None Detected									
C2	D2	None Detected									
C2	E3	None Detected									
C3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/19/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021025-AB**		**Sample Description:**	**TEM0683106**
EMSL Sample Number:	042502869-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7260.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0004 **Customer Sample:** MFL-AM08-021025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	I8	None Detected									
C6	D5	None Detected									
C6	F6	None Detected									
C7	G10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/20/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-021025-AB** **Sample Description: TEM0682882**

EMSL Sample Number:	042502869-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0005 **Customer Sample:** MFL-FB01-021025-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J8	None Detected									
D1	J6	None Detected									
D1	H7	None Detected									
D1	H5	None Detected									
D2	I5	None Detected									
D2	I3	None Detected									
D2	G4	None Detected									
D3	F2	None Detected									
D3	F4	None Detected									
D3	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/20/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021125-AB**		**Sample Description:**	**TEM0682839**
EMSL Sample Number:	042502869-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0006 **Customer Sample:** MFL-AM05-021125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I7	None Detected									
D5	G6	None Detected									
D6	J9	None Detected									
D6	H10	None Detected									
D7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/20/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021125-AB**		**Sample Description:**	**TEM0683157**
EMSL Sample Number:	042502869-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7182.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0007 **Customer Sample:** MFL-AM02-021125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J5	None Detected									
E1	I6	None Detected									
E2	B3	None Detected									
E2	C8	None Detected									
E3	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/20/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021125-AB**		**Sample Description:**	**TEM0682941**
EMSL Sample Number:	042502869-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.6
Aspect ratio for fiber definition:	0.126		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0008 **Customer Sample:** MFL-AM09-021125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	G6	None Detected									
E6	A3	None Detected									
E6	C1	None Detected									
E7	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	02/20/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021125-AB**		**Sample Description:**	**TEM0682617**
EMSL Sample Number:	042502869-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7258.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0009 **Customer Sample:** MFL-AM08-021125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I8	None Detected									
F1	H9	None Detected									
F2	A5	None Detected									
F2	C6	None Detected									
F3	B10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/20/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-021125-AB** **Sample Description: TEM0682847**

EMSL Sample Number:	042502869-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0010 **Customer Sample:** MFL-FB01-021125-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	B4	None Detected									
F5	B6	None Detected									
F5	C7	None Detected									
F5	C9	None Detected									
F6	J4	None Detected									
F6	J2	None Detected									
F6	I3	None Detected									
F7	A8	None Detected									
F7	A10	None Detected									
F7	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/21/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021225-AB**		**Sample Description:**	**TEM0682930**
EMSL Sample Number:	042502869-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0011 **Customer Sample:** MFL-AM05-021225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J7	None Detected									
G1	H6	None Detected									
G2	I4	None Detected									
G2	E5	None Detected									
G3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/21/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021225-AB**		**Sample Description:**	**TEM0682914**
EMSL Sample Number:	042502869-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7218.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0012 **Customer Sample:** MFL-AM02-021225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B4	None Detected									
G5	C6	None Detected									
G6	A7	None Detected									
G6	D9	None Detected									
G7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/21/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021225-AB**		**Sample Description:**	**TEM0682909**
EMSL Sample Number:	042502869-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0013 **Customer Sample:** MFL-AM09-021225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J5	None Detected									
H1	I3	None Detected									
H2	H7	None Detected									
H2	G6	None Detected									
H3	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/21/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021225-AB**		**Sample Description:**	**TEM0682842**
EMSL Sample Number:	042502869-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0014 **Customer Sample:** MFL-AM08-021225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	I8	None Detected									
H5	G7	None Detected									
H6	A5	None Detected									
H6	B4	None Detected									
H7	C8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/21/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021225-AB**		**Sample Description:**	**TEM0683814**
EMSL Sample Number:	042502869-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0015 **Customer Sample:** MFL-FB01-021225-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J7	None Detected									
I1	J5	None Detected									
I1	H6	None Detected									
I1	H4	None Detected									
I2	G5	None Detected									
I2	G3	None Detected									
I2	F4	None Detected									
I3	C4	None Detected									
I3	C6	None Detected									
I3	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042502869
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/17/2025 08:00 AM
Analysis Date:	02/19/2025
Report Date:	02/24/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042502869-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042502869
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042502869-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B5	None Detected									
A1	B7	None Detected									
A1	C8	None Detected									
A1	C10	None Detected									
A2	H3	None Detected									
A2	H5	None Detected									
A2	I4	None Detected									
A3	D7	None Detected									
A3	D9	None Detected									
A3	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042502869

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

RECEIVED
2025 FEB 14 AM 11:41
EMSL
CINNAMINSON, NJ

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D6755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-021025-AB	TEM0682822	7,262.309	02/10/25 1059
MFL-AM02-021025-AB	TEM0682926	7,194.960	02/10/25 1111
MFL-AM09-021025-AB	TEM0682902	7,161.583	02/10/25 1247
MFL-AM08-021025-AB	TEM0683106	7,260.008	02/10/25 1303
MFL-FB01-021025-AB	TEM0682882	∅	02/10/25 1200
MFL-AM05-021125-AB	TEM0682839	7,241.952	02/11/25 1056
MFL-AM02-021125-AB	TEM0683157	7,182.763	02/11/25 1112
MFL-AM09-021125-AB	TEM0682941	7,225.632	02/11/25 1251

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Shaina Epstein	02/13/25 1100	FX	2/15/25 11:40am

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

15 Am

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042502869

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-021125-AB	TEM0682617	7,258.464	02/11/25 1309
MFL-FB01-021125-AB	TEM0682847	0	02/11/25 1200
MFL-AM05-021225-AB	TEM0682930	7,199.778	02/12/25 1057
MFL-AM02-021225-AB	TEM0682914	7,218.616	02/12/25 1113
MFL-AM09-021225-AB	TEM0682909	7,160.901	02/12/25 1251
MFL-AM08-021225-AB	TEM0682842	7,199.684	02/12/25 1307
MFL-FB01-021225-AB	TEM0683814	0	02/12/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2025 FEB 15 A 11:37

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 02/13/25 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-08 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/24/2025 and Shanna Vasser 02/25/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/10/2025 – 02/12/2025
Report No: 42502869

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

February 26, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 02/17/25 07:15.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-020625-HM	5021837-01	Air	02/06/25 23:59	02/17/25 07:15
MFL-AM02-020625-HM	5021837-02	Air	02/06/25 23:59	02/17/25 07:15
MFL-AM09-020625-HM	5021837-03	Air	02/06/25 23:59	02/17/25 07:15
MFL-AM08-020625-HM	5021837-04	Air	02/06/25 23:59	02/17/25 07:15
MFL-AM05-020725-HM	5021837-05	Air	02/07/25 23:59	02/17/25 07:15
MFL-AM02-020725-HM	5021837-06	Air	02/07/25 23:59	02/17/25 07:15
MFL-AM09-020725-HM	5021837-07	Air	02/07/25 23:59	02/17/25 07:15
MFL-AM08-020725-HM	5021837-08	Air	02/07/25 23:59	02/17/25 07:15
MFL-FB01-020725-HM	5021837-09	Air	02/07/25 00:00	02/17/25 07:15
MFL-AM05-020825-HM	5021837-10	Air	02/08/25 23:59	02/17/25 07:15
MFL-AM02-020825-HM	5021837-11	Air	02/08/25 23:59	02/17/25 07:15
MFL-AM09-020825-HM	5021837-12	Air	02/08/25 23:59	02/17/25 07:15
MFL-AM08-020825-HM	5021837-13	Air	02/08/25 23:59	02/17/25 07:15
MFL-AM05-020925-HM	5021837-14	Air	02/09/25 23:59	02/17/25 07:15
MFL-AM02-020925-HM	5021837-15	Air	02/09/25 23:59	02/17/25 07:15
MFL-AM09-020925-HM	5021837-16	Air	02/09/25 23:59	02/17/25 07:15
MFL-AM08-020925-HM	5021837-17	Air	02/09/25 23:59	02/17/25 07:15
MFL-FB01-020925-HM	5021837-18	Air	02/09/25 00:00	02/17/25 07:15
MFL-AM05-021025-HM	5021837-19	Air	02/10/25 23:59	02/17/25 07:15
MFL-AM02-021025-HM	5021837-20	Air	02/10/25 23:59	02/17/25 07:15
MFL-AM09-021025-HM	5021837-21	Air	02/10/25 23:59	02/17/25 07:15

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM08-021025-HM	5021837-22	Air	02/10/25 23:59	02/17/25 07:15
MFL-LB01-021025-HM	5021837-23	Air	02/10/25 00:00	02/17/25 07:15
MFL-AM05-021125-HM	5021837-24	Air	02/11/25 23:59	02/17/25 07:15
MFL-AM02-021125-HM	5021837-25	Air	02/11/25 23:59	02/17/25 07:15
MFL-AM09-021125-HM	5021837-26	Air	02/11/25 23:59	02/17/25 07:15
MFL-AM08-021125-HM	5021837-27	Air	02/11/25 23:59	02/17/25 07:15
MFL-FB01-021125-HM	5021837-28	Air	02/11/25 23:59	02/17/25 07:15
MFL-AM05-021225-HM	5021837-29	Air	02/12/25 23:59	02/17/25 07:15
MFL-AM02-021225-HM	5021837-30	Air	02/12/25 23:59	02/17/25 07:15
MFL-AM09-021225-HM	5021837-31	Air	02/12/25 23:59	02/17/25 07:15
MFL-AM08-021225-HM	5021837-32	Air	02/12/25 23:59	02/17/25 07:15

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020625-HM
Matrix: Air
Lab ID: 5021837-01
Sample Volume: 2069.054 m³
Filter ID:
Sampled: 02/06/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/21/25 23:52

Comments: Q8521611 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.213**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.586**		**0.00699**
Barium	**7440-39-3**	**8.87**		**1.21**
Beryllium	**7440-41-7**	**0.0299**		**0.00149**
Cadmium	**7440-43-9**	**0.0372**		**0.00403**
Chromium	**7440-47-3**	**4.04**		**1.92**
Cobalt	**7440-48-4**	**0.925**		**0.0409**
Copper	**7440-50-8**	**39.1**		**0.591**
Lead	**7439-92-1**	**0.989**		**0.105**
Manganese	**7439-96-5**	**34.7**		**0.438**
Molybdenum	**7439-98-7**	**1.36**		**0.310**
Nickel	**7440-02-0**	**2.94**		**0.581**
Selenium	**7782-49-2**	**0.208**	LJ, QX	**0.00794**
Thallium	**7440-28-0**	**0.00303**		**6.77E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0360**
Zinc	7440-66-6	32.8	U	89.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020625-HM
Matrix: Air
Lab ID: 5021837-02
Sample Volume: 2055.237 m³
Filter ID:
Sampled: 02/06/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 00:12

Comments: Q8521609 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.597**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.279**		**0.00704**
Barium	**7440-39-3**	**10.3**		**1.22**
Beryllium	**7440-41-7**	**0.0155**		**0.00150**
Cadmium	**7440-43-9**	**0.0196**		**0.00405**
Chromium	**7440-47-3**	**2.40**		**1.93**
Cobalt	**7440-48-4**	**0.461**		**0.0412**
Copper	**7440-50-8**	**54.6**		**0.595**
Lead	**7439-92-1**	**0.849**		**0.106**
Manganese	**7439-96-5**	**14.9**		**0.441**
Molybdenum	**7439-98-7**	**2.76**		**0.312**
Nickel	**7440-02-0**	**1.66**		**0.585**
Selenium	**7782-49-2**	**0.180**	LJ, QX	**0.00800**
Thallium	**7440-28-0**	**0.00169**		**6.82E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0363**
Zinc	7440-66-6	33.3	U	90.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020625-HM
Matrix: Air
Lab ID: 5021837-03
Sample Volume: 1918.043 m³
Filter ID:
Sampled: 02/06/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/21/25 17:37

Comments: Q8521608 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.188**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.247**	D-F	**0.00754**
Barium	**7440-39-3**	**4.68**		**1.31**
Beryllium	**7440-41-7**	**0.00967**		**0.00161**
Cadmium	**7440-43-9**	**0.0148**		**0.00434**
Chromium	**7440-47-3**	**2.58**		**2.07**
Cobalt	**7440-48-4**	**0.291**		**0.0441**
Copper	**7440-50-8**	**31.3**	QM-07	**0.638**
Lead	**7439-92-1**	**0.797**		**0.114**
Manganese	**7439-96-5**	**8.77**		**0.472**
Molybdenum	**7439-98-7**	**1.53**	QM-07	**0.334**
Nickel	**7440-02-0**	**1.53**		**0.627**
Selenium	**7782-49-2**	**0.140**	LJ, QX	**0.00857**
Thallium	**7440-28-0**	**0.00133**		**7.30E-4**
Vanadium	**7440-62-2**	**0.770**		**0.0389**
Zinc	7440-66-6	29.6	U	96.7

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020625-HM
Matrix: Air
Lab ID: 5021837-04
Sample Volume: 1794.775 m³
Filter ID:
Sampled: 02/06/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 00:26

Comments: Q8521607 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.209**		**0.00806**
Barium	**7440-39-3**	**3.20**		**1.40**
Beryllium	**7440-41-7**	**0.00507**		**0.00172**
Cadmium	**7440-43-9**	**0.0167**		**0.00464**
Chromium	7440-47-3	1.46	U	2.21
Cobalt	**7440-48-4**	**0.148**		**0.0471**
Copper	**7440-50-8**	**63.5**		**0.682**
Lead	**7439-92-1**	**0.439**		**0.121**
Manganese	**7439-96-5**	**4.98**		**0.505**
Molybdenum	**7439-98-7**	**2.17**		**0.357**
Nickel	**7440-02-0**	**0.943**		**0.670**
Selenium	**7782-49-2**	**0.105**	LJ, QX	**0.00916**
Thallium	**7440-28-0**	**0.00116**		**7.81E-4**
Vanadium	**7440-62-2**	**0.448**		**0.0415**
Zinc	7440-66-6	22.9	U	103

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020725-HM
Matrix: Air
Lab ID: 5021837-05
Sample Volume: 2072.533 m³
Filter ID:
Sampled: 02/07/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 00:40

Comments: Q8521604 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.189**		**0.00698**
Barium	**7440-39-3**	**3.34**		**1.21**
Beryllium	**7440-41-7**	**0.00607**		**0.00149**
Cadmium	**7440-43-9**	**0.0410**		**0.00402**
Chromium	7440-47-3	1.58	U	1.92
Cobalt	**7440-48-4**	**0.195**		**0.0408**
Copper	**7440-50-8**	**32.4**		**0.590**
Lead	**7439-92-1**	**0.540**		**0.105**
Manganese	**7439-96-5**	**6.41**		**0.437**
Molybdenum	**7439-98-7**	**1.33**		**0.309**
Nickel	**7440-02-0**	**1.10**		**0.580**
Selenium	**7782-49-2**	**0.292**	LJ, QX	**0.00793**
Thallium	**7440-28-0**	**0.00283**		**6.76E-4**
Vanadium	**7440-62-2**	**0.697**		**0.0360**
Zinc	7440-66-6	20.4	U	89.5

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020725-HM
Matrix: Air
Lab ID: 5021837-06
Sample Volume: 2073.759 m³
Filter ID:
Sampled: 02/07/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 00:53

Comments: Q8521603 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.376**	SL	**0.0275**
Arsenic	**7440-38-2**	**0.241**		**0.00697**
Barium	**7440-39-3**	**6.54**		**1.21**
Beryllium	**7440-41-7**	**0.00968**		**0.00149**
Cadmium	**7440-43-9**	**0.0734**		**0.00402**
Chromium	**7440-47-3**	**2.78**		**1.91**
Cobalt	**7440-48-4**	**0.337**		**0.0408**
Copper	**7440-50-8**	**51.5**		**0.590**
Lead	**7439-92-1**	**0.716**		**0.105**
Manganese	**7439-96-5**	**9.96**		**0.437**
Molybdenum	**7439-98-7**	**2.81**		**0.309**
Nickel	**7440-02-0**	**2.32**		**0.580**
Selenium	**7782-49-2**	**0.337**	LJ, QX	**0.00792**
Thallium	**7440-28-0**	**0.00302**		**6.76E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0359**
Zinc	7440-66-6	21.6	U	89.4

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020725-HM
Matrix: Air
Lab ID: 5021837-07
Sample Volume: 1961.56 m³
Filter ID:
Sampled: 02/07/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 01:11

Comments: Q8521602 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0854**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.146**		**0.00737**
Barium	**7440-39-3**	**2.79**		**1.28**
Beryllium	**7440-41-7**	**0.00508**		**0.00158**
Cadmium	**7440-43-9**	**0.0291**		**0.00425**
Chromium	7440-47-3	1.52	U	2.02
Cobalt	**7440-48-4**	**0.168**		**0.0431**
Copper	**7440-50-8**	**17.4**		**0.624**
Lead	**7439-92-1**	**0.297**		**0.111**
Manganese	**7439-96-5**	**4.42**		**0.462**
Molybdenum	**7439-98-7**	**1.05**		**0.327**
Nickel	**7440-02-0**	**1.66**		**0.613**
Selenium	**7782-49-2**	**0.187**	LJ, QX	**0.00838**
Thallium	**7440-28-0**	**0.00171**		**7.14E-4**
Vanadium	**7440-62-2**	**0.453**		**0.0380**
Zinc	7440-66-6	11.3	U	94.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020725-HM **Lab ID:** 5021837-08 **Sampled:** 02/07/25 23:59
Matrix: Air **Sample Volume:** 1931.806 m³ **Received:** 02/17/25 07:15
Filter ID: **Analysis Date:** 02/22/25 01:25

Comments: Q8521601 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.410**		**0.00749**
Barium	**7440-39-3**	**4.17**		**1.30**
Beryllium	**7440-41-7**	**0.00965**		**0.00160**
Cadmium	**7440-43-9**	**0.0412**		**0.00431**
Chromium	7440-47-3	1.94	U	2.06
Cobalt	**7440-48-4**	**0.313**		**0.0438**
Copper	**7440-50-8**	**43.2**		**0.633**
Lead	**7439-92-1**	**0.874**		**0.113**
Manganese	**7439-96-5**	**10.4**		**0.469**
Molybdenum	**7439-98-7**	**2.35**		**0.332**
Nickel	**7440-02-0**	**1.51**		**0.622**
Selenium	**7782-49-2**	**0.327**	LJ, QX	**0.00851**
Thallium	**7440-28-0**	**0.00281**		**7.25E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0386**
Zinc	7440-66-6	18.6	U	96.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020725-HM
Matrix: Air
Lab ID: 5021837-09
Sample Volume: 2072.533 m³
Filter ID:
Sampled: 02/07/25 00:00
Received: 02/17/25 07:15
Analysis Date: 02/22/25 01:39

Comments: Q8521597 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0342**	FB-01, SL	**0.0275**
Arsenic	**7440-38-2**	**0.00788**	FB-01	**0.00698**
Barium	7440-39-3	0.893	U	1.21
Beryllium	7440-41-7	7.05E-5	U	0.00149
Cadmium	7440-43-9	6.69E-4	U	0.00402
Chromium	7440-47-3	0.793	U	1.92
Cobalt	7440-48-4	0.0122	U	0.0408
Copper	**7440-50-8**	**0.943**	FB-01	**0.590**
Lead	7439-92-1	0.0318	U	0.105
Manganese	7439-96-5	0.287	U	0.437
Molybdenum	7439-98-7	0.155	U	0.309
Nickel	7440-02-0	0.396	U	0.580
Selenium	7782-49-2	0.00136	LJ, QX, U	0.00793
Thallium	7440-28-0	6.40E-5	U	6.76E-4
Vanadium	7440-62-2	0.0324	U	0.0360
Zinc	7440-66-6	5.93	U	89.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020825-HM
Matrix: Air
Lab ID: 5021837-10
Sample Volume: 2078.621 m³
Filter ID:
Sampled: 02/08/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 01:52

Comments: Q8521600 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.258**		**0.00696**
Barium	**7440-39-3**	**3.70**		**1.21**
Beryllium	**7440-41-7**	**0.00739**		**0.00149**
Cadmium	**7440-43-9**	**0.0210**		**0.00401**
Chromium	7440-47-3	1.41	U	1.91
Cobalt	**7440-48-4**	**0.178**		**0.0407**
Copper	**7440-50-8**	**30.5**		**0.589**
Lead	**7439-92-1**	**0.541**		**0.105**
Manganese	**7439-96-5**	**7.09**		**0.436**
Molybdenum	**7439-98-7**	**1.44**		**0.308**
Nickel	**7440-02-0**	**0.990**		**0.578**
Selenium	**7782-49-2**	**0.190**	LJ, QX	**0.00791**
Thallium	**7440-28-0**	**0.00257**		**6.74E-4**
Vanadium	**7440-62-2**	**0.825**		**0.0358**
Zinc	7440-66-6	14.4	U	89.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020825-HM
Matrix: Air
Lab ID: 5021837-11
Sample Volume: 2081.598 m³
Filter ID:
Sampled: 02/08/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 03:19

Comments: Q8521599 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.540**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.290**		**0.00695**
Barium	**7440-39-3**	**5.46**		**1.20**
Beryllium	**7440-41-7**	**0.0101**		**0.00149**
Cadmium	**7440-43-9**	**0.0477**		**0.00400**
Chromium	7440-47-3	1.57	U	1.91
Cobalt	**7440-48-4**	**0.251**		**0.0406**
Copper	**7440-50-8**	**52.6**		**0.588**
Lead	**7439-92-1**	**0.670**		**0.105**
Manganese	**7439-96-5**	**9.32**		**0.435**
Molybdenum	**7439-98-7**	**3.03**		**0.308**
Nickel	**7440-02-0**	**1.16**		**0.578**
Selenium	**7782-49-2**	**0.210**	LJ, QX	**0.00789**
Thallium	**7440-28-0**	**0.00300**		**6.73E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0358**
Zinc	7440-66-6	14.7	U	89.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020825-HM
Matrix: Air
Lab ID: 5021837-12
Sample Volume: 1984.255 m³
Filter ID:
Sampled: 02/08/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 03:55

Comments: Q8521596 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.341**		**0.00729**
Barium	**7440-39-3**	**4.09**		**1.26**
Beryllium	**7440-41-7**	**0.0116**		**0.00156**
Cadmium	**7440-43-9**	**0.0215**		**0.00420**
Chromium	**7440-47-3**	**2.78**		**2.00**
Cobalt	**7440-48-4**	**0.251**		**0.0426**
Copper	**7440-50-8**	**24.4**		**0.617**
Lead	**7439-92-1**	**0.780**		**0.110**
Manganese	**7439-96-5**	**9.72**		**0.457**
Molybdenum	**7439-98-7**	**1.48**		**0.323**
Nickel	**7440-02-0**	**1.12**		**0.606**
Selenium	**7782-49-2**	**0.221**	LJ, QX	**0.00828**
Thallium	**7440-28-0**	**0.00275**		**7.06E-4**
Vanadium	**7440-62-2**	**0.943**		**0.0376**
Zinc	7440-66-6	14.2	U	93.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020825-HM
Matrix: Air
Lab ID: 5021837-13
Sample Volume: 1998.88 m³
Filter ID:
Sampled: 02/08/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 04:15

Comments: Q8521594 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.389**		**0.00724**
Barium	**7440-39-3**	**3.57**		**1.25**
Beryllium	**7440-41-7**	**0.00872**		**0.00155**
Cadmium	**7440-43-9**	**0.0199**		**0.00417**
Chromium	7440-47-3	1.37	U	1.99
Cobalt	**7440-48-4**	**0.223**		**0.0423**
Copper	**7440-50-8**	**33.4**		**0.612**
Lead	**7439-92-1**	**0.797**		**0.109**
Manganese	**7439-96-5**	**8.42**		**0.453**
Molybdenum	**7439-98-7**	**2.16**		**0.321**
Nickel	**7440-02-0**	**1.03**		**0.602**
Selenium	**7782-49-2**	**0.200**	LJ, QX	**0.00822**
Thallium	**7440-28-0**	**0.00259**		**7.01E-4**
Vanadium	**7440-62-2**	**0.875**		**0.0373**
Zinc	7440-66-6	12.7	U	92.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-020925-HM
Matrix: Air
Lab ID: 5021837-14
Sample Volume: 2167.611 m³
Filter ID:
Sampled: 02/09/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 04:30

Comments: Q8521593 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0263**
Arsenic	**7440-38-2**	**0.366**		**0.00667**
Barium	**7440-39-3**	**3.53**		**1.16**
Beryllium	**7440-41-7**	**0.00902**		**0.00143**
Cadmium	**7440-43-9**	**0.0188**		**0.00384**
Chromium	7440-47-3	1.36	U	1.83
Cobalt	**7440-48-4**	**0.214**		**0.0390**
Copper	**7440-50-8**	**25.2**		**0.564**
Lead	**7439-92-1**	**0.600**		**0.101**
Manganese	**7439-96-5**	**8.89**		**0.418**
Molybdenum	**7439-98-7**	**1.27**		**0.296**
Nickel	**7440-02-0**	**0.935**		**0.555**
Selenium	**7782-49-2**	**0.150**	LJ, QX	**0.00758**
Thallium	**7440-28-0**	**0.00257**		**6.46E-4**
Vanadium	**7440-62-2**	**0.837**		**0.0344**
Zinc	7440-66-6	12.7	U	85.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020925-HM
Matrix: Air
Lab ID: 5021837-15
Sample Volume: 2078.985 m³
Filter ID:
Sampled: 02/09/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 04:43

Comments: Q8521590 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.308**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.450**		**0.00696**
Barium	**7440-39-3**	**5.88**		**1.21**
Beryllium	**7440-41-7**	**0.0134**		**0.00149**
Cadmium	**7440-43-9**	**0.0219**		**0.00401**
Chromium	**7440-47-3**	**2.05**		**1.91**
Cobalt	**7440-48-4**	**0.321**		**0.0407**
Copper	**7440-50-8**	**53.3**		**0.589**
Lead	**7439-92-1**	**1.03**		**0.105**
Manganese	**7439-96-5**	**12.1**		**0.436**
Molybdenum	**7439-98-7**	**3.17**		**0.308**
Nickel	**7440-02-0**	**1.59**		**0.578**
Selenium	**7782-49-2**	**0.196**	LJ, QX	**0.00790**
Thallium	**7440-28-0**	**0.00262**		**6.74E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0358**
Zinc	7440-66-6	18.9	U	89.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-020925-HM
Matrix: Air
Lab ID: 5021837-16
Sample Volume: 2002.811 m³
Filter ID:
Sampled: 02/09/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 05:00

Comments: Q8521589 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0284**
Arsenic	**7440-38-2**	**0.428**		**0.00722**
Barium	**7440-39-3**	**4.09**		**1.25**
Beryllium	**7440-41-7**	**0.00821**		**0.00154**
Cadmium	**7440-43-9**	**0.0211**		**0.00416**
Chromium	7440-47-3	1.57	U	1.98
Cobalt	**7440-48-4**	**0.175**		**0.0422**
Copper	**7440-50-8**	**20.5**		**0.611**
Lead	**7439-92-1**	**0.650**		**0.109**
Manganese	**7439-96-5**	**7.47**		**0.452**
Molybdenum	**7439-98-7**	**1.24**		**0.320**
Nickel	**7440-02-0**	**1.04**		**0.600**
Selenium	**7782-49-2**	**0.177**	LJ, QX	**0.00820**
Thallium	**7440-28-0**	**0.00251**		**6.99E-4**
Vanadium	**7440-62-2**	**0.717**		**0.0372**
Zinc	7440-66-6	14.8	U	92.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-020925-HM
Matrix: Air
Lab ID: 5021837-17
Sample Volume: 1952.271 m³
Filter ID:
Sampled: 02/09/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 05:14

Comments: Q8521587 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.407**		**0.00741**
Barium	**7440-39-3**	**2.91**		**1.28**
Beryllium	**7440-41-7**	**0.00745**		**0.00158**
Cadmium	**7440-43-9**	**0.0224**		**0.00427**
Chromium	7440-47-3	1.31	U	2.03
Cobalt	**7440-48-4**	**0.142**		**0.0433**
Copper	**7440-50-8**	**32.7**		**0.627**
Lead	**7439-92-1**	**0.587**		**0.112**
Manganese	**7439-96-5**	**6.35**		**0.464**
Molybdenum	**7439-98-7**	**2.24**		**0.328**
Nickel	**7440-02-0**	**0.840**		**0.616**
Selenium	**7782-49-2**	**0.172**	LJ, QX	**0.00842**
Thallium	**7440-28-0**	**0.00261**		**7.18E-4**
Vanadium	**7440-62-2**	**0.645**		**0.0382**
Zinc	7440-66-6	9.98	U	95.0

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020925-HM
Matrix: Air
Lab ID: 5021837-18
Sample Volume: 2167.611 m³
Filter ID:
Sampled: 02/09/25 00:00
Received: 02/17/25 07:15
Analysis Date: 02/22/25 05:28

Comments: Q8521582 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0193	SL, U	0.0263
Arsenic	7440-38-2	0.00498	U	0.00667
Barium	**7440-39-3**	**1.45**	FB-01	**1.16**
Beryllium	7440-41-7	6.36E-5	U	0.00143
Cadmium	7440-43-9	8.18E-4	U	0.00384
Chromium	7440-47-3	0.773	U	1.83
Cobalt	7440-48-4	0.00750	U	0.0390
Copper	**7440-50-8**	**1.28**	FB-01	**0.564**
Lead	7439-92-1	0.0507	U	0.101
Manganese	7439-96-5	0.115	U	0.418
Molybdenum	7439-98-7	0.130	U	0.296
Nickel	7440-02-0	0.337	U	0.555
Selenium	7782-49-2	ND	LJ, QX, U	0.00758
Thallium	7440-28-0	5.27E-5	U	6.46E-4
Vanadium	7440-62-2	0.0199	U	0.0344
Zinc	7440-66-6	4.29	U	85.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021025-HM
Matrix: Air
Lab ID: 5021837-19
Sample Volume: 2022.503 m³
Filter ID:
Sampled: 02/10/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 05:41

Comments: Q8521586 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0282**
Arsenic	**7440-38-2**	**0.353**		**0.00715**
Barium	**7440-39-3**	**3.81**		**1.24**
Beryllium	**7440-41-7**	**0.00762**		**0.00153**
Cadmium	**7440-43-9**	**0.0702**		**0.00412**
Chromium	**7440-47-3**	**1.97**		**1.96**
Cobalt	**7440-48-4**	**0.253**		**0.0418**
Copper	**7440-50-8**	**30.3**		**0.605**
Lead	**7439-92-1**	**0.652**		**0.108**
Manganese	**7439-96-5**	**8.99**		**0.448**
Molybdenum	**7439-98-7**	**1.63**		**0.317**
Nickel	**7440-02-0**	**1.45**		**0.594**
Selenium	**7782-49-2**	**0.204**	LJ, QX	**0.00812**
Thallium	**7440-28-0**	**0.00191**		**6.93E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0368**
Zinc	7440-66-6	17.6	U	91.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021025-HM
Matrix: Air
Lab ID: 5021837-20
Sample Volume: 2055.909 m³
Filter ID:
Sampled: 02/10/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 07:09

Comments: Q8521585 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.151**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.355**		**0.00704**
Barium	**7440-39-3**	**4.47**		**1.22**
Beryllium	**7440-41-7**	**0.00951**		**0.00150**
Cadmium	**7440-43-9**	**0.0190**		**0.00405**
Chromium	**7440-47-3**	**2.17**		**1.93**
Cobalt	**7440-48-4**	**0.261**		**0.0412**
Copper	**7440-50-8**	**59.2**		**0.595**
Lead	**7439-92-1**	**0.651**		**0.106**
Manganese	**7439-96-5**	**9.18**		**0.441**
Molybdenum	**7439-98-7**	**3.50**		**0.312**
Nickel	**7440-02-0**	**1.27**		**0.585**
Selenium	**7782-49-2**	**0.224**	LJ, QX	**0.00799**
Thallium	**7440-28-0**	**0.00245**		**6.81E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0362**
Zinc	7440-66-6	16.6	U	90.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021025-HM
Matrix: Air
Lab ID: 5021837-21
Sample Volume: 1980.937 m³
Filter ID:
Sampled: 02/10/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 07:24

Comments: Q8521583 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.311**		**0.00730**
Barium	**7440-39-3**	**2.98**		**1.26**
Beryllium	**7440-41-7**	**0.00555**		**0.00156**
Cadmium	**7440-43-9**	**0.0145**		**0.00421**
Chromium	7440-47-3	1.38	U	2.00
Cobalt	**7440-48-4**	**0.141**		**0.0427**
Copper	**7440-50-8**	**24.7**		**0.618**
Lead	**7439-92-1**	**0.543**		**0.110**
Manganese	**7439-96-5**	**5.08**		**0.457**
Molybdenum	**7439-98-7**	**1.61**		**0.324**
Nickel	**7440-02-0**	**0.925**		**0.607**
Selenium	**7782-49-2**	**0.197**	LJ, QX	**0.00830**
Thallium	**7440-28-0**	**0.00184**		**7.07E-4**
Vanadium	**7440-62-2**	**0.739**		**0.0376**
Zinc	7440-66-6	13.8	U	93.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021025-HM
Matrix: Air
Lab ID: 5021837-22
Sample Volume: 1949.82 m³
Filter ID:
Sampled: 02/10/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 07:38

Comments: Q9524310 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.292**		**0.00742**
Barium	**7440-39-3**	**2.86**		**1.29**
Beryllium	**7440-41-7**	**0.00588**		**0.00159**
Cadmium	**7440-43-9**	**0.0121**		**0.00427**
Chromium	7440-47-3	1.22	U	2.04
Cobalt	**7440-48-4**	**0.143**		**0.0434**
Copper	**7440-50-8**	**47.7**		**0.627**
Lead	**7439-92-1**	**0.435**		**0.112**
Manganese	**7439-96-5**	**5.40**		**0.465**
Molybdenum	**7439-98-7**	**2.72**		**0.329**
Nickel	**7440-02-0**	**0.694**		**0.617**
Selenium	**7782-49-2**	**0.188**	LJ, QX	**0.00843**
Thallium	**7440-28-0**	**0.00174**		**7.18E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0382**
Zinc	7440-66-6	11.2	U	95.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-021025-HM
Matrix: Air
Lab ID: 5021837-23
Sample Volume: 2022.503 m³
Filter ID:
Sampled: 02/10/25 00:00
Received: 02/17/25 07:15
Analysis Date: 02/22/25 07:52

Comments: Q9524309 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0138	SL, U	0.0282
Arsenic	7440-38-2	0.00554	U	0.00715
Barium	7440-39-3	0.628	U	1.24
Beryllium	7440-41-7	ND	U	0.00153
Cadmium	7440-43-9	5.12E-4	U	0.00412
Chromium	7440-47-3	0.697	U	1.96
Cobalt	7440-48-4	0.00526	U	0.0418
Copper	7440-50-8	0.334	U	0.605
Lead	7439-92-1	0.0252	U	0.108
Manganese	7439-96-5	0.112	U	0.448
Molybdenum	7439-98-7	0.0969	U	0.317
Nickel	7440-02-0	0.175	U	0.594
Selenium	7782-49-2	ND	LJ, QX, U	0.00812
Thallium	7440-28-0	1.28E-4	U	6.93E-4
Vanadium	7440-62-2	0.0171	U	0.0368
Zinc	7440-66-6	4.95	U	91.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021125-HM
Matrix: Air
Lab ID: 5021837-24
Sample Volume: 2116.882 m³
Filter ID:
Sampled: 02/11/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/21/25 21:18

Comments: Q9524308 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0269**
Arsenic	**7440-38-2**	**0.217**		**0.00683**
Barium	**7440-39-3**	**4.63**		**1.18**
Beryllium	**7440-41-7**	**0.00991**		**0.00146**
Cadmium	**7440-43-9**	**0.0409**	D-F	**0.00394**
Chromium	7440-47-3	1.87	U	1.88
Cobalt	**7440-48-4**	**0.283**		**0.0400**
Copper	**7440-50-8**	**23.2**		**0.578**
Lead	**7439-92-1**	**0.446**		**0.103**
Manganese	**7439-96-5**	**9.75**		**0.428**
Molybdenum	**7439-98-7**	**1.31**		**0.303**
Nickel	**7440-02-0**	**1.09**		**0.568**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00776**
Thallium	**7440-28-0**	**0.00205**		**6.62E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0352**
Zinc	7440-66-6	17.5	U	87.6

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021125-HM
Matrix: Air
Lab ID: 5021837-25
Sample Volume: 2134.26 m³
Filter ID:
Sampled: 02/11/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 08:05

Comments: Q9524307 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.307**	SL	**0.0267**
Arsenic	**7440-38-2**	**0.619**		**0.00678**
Barium	**7440-39-3**	**9.11**		**1.17**
Beryllium	**7440-41-7**	**0.0221**		**0.00145**
Cadmium	**7440-43-9**	**0.0234**		**0.00390**
Chromium	**7440-47-3**	**2.97**		**1.86**
Cobalt	**7440-48-4**	**0.765**		**0.0396**
Copper	**7440-50-8**	**76.2**		**0.573**
Lead	**7439-92-1**	**0.951**		**0.102**
Manganese	**7439-96-5**	**21.6**		**0.425**
Molybdenum	**7439-98-7**	**3.91**		**0.300**
Nickel	**7440-02-0**	**2.37**		**0.563**
Selenium	**7782-49-2**	**0.276**	LJ, QX	**0.00770**
Thallium	**7440-28-0**	**0.00230**		**6.56E-4**
Vanadium	**7440-62-2**	**2.48**		**0.0349**
Zinc	7440-66-6	26.2	U	86.9

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021125-HM
Matrix: Air
Lab ID: 5021837-26
Sample Volume: 2048.37 m³
Filter ID:
Sampled: 02/11/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 08:21

Comments: Q9524306 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0278**
Arsenic	**7440-38-2**	**0.260**		**0.00706**
Barium	**7440-39-3**	**3.85**		**1.22**
Beryllium	**7440-41-7**	**0.00890**		**0.00151**
Cadmium	**7440-43-9**	**0.0168**		**0.00407**
Chromium	7440-47-3	1.77	U	1.94
Cobalt	**7440-48-4**	**0.248**		**0.0413**
Copper	**7440-50-8**	**24.2**		**0.597**
Lead	**7439-92-1**	**0.698**		**0.106**
Manganese	**7439-96-5**	**8.26**		**0.442**
Molybdenum	**7439-98-7**	**1.22**		**0.313**
Nickel	**7440-02-0**	**0.944**		**0.587**
Selenium	**7782-49-2**	**0.216**	LJ, QX	**0.00802**
Thallium	**7440-28-0**	**0.00210**		**6.84E-4**
Vanadium	**7440-62-2**	**0.846**		**0.0364**
Zinc	7440-66-6	14.6	U	90.5

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REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021125-HM
Matrix: Air
Lab ID: 5021837-27
Sample Volume: 2007.24 m³
Filter ID:
Sampled: 02/11/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 08:36

Comments: Q9524305 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0284**
Arsenic	**7440-38-2**	**0.257**		**0.00721**
Barium	**7440-39-3**	**3.49**		**1.25**
Beryllium	**7440-41-7**	**0.00741**		**0.00154**
Cadmium	**7440-43-9**	**0.0151**		**0.00415**
Chromium	7440-47-3	1.31	U	1.98
Cobalt	**7440-48-4**	**0.209**		**0.0421**
Copper	**7440-50-8**	**47.0**		**0.610**
Lead	**7439-92-1**	**0.437**		**0.109**
Manganese	**7439-96-5**	**7.12**		**0.451**
Molybdenum	**7439-98-7**	**2.78**		**0.319**
Nickel	**7440-02-0**	**0.733**		**0.599**
Selenium	**7782-49-2**	**0.210**	LJ, QX	**0.00819**
Thallium	**7440-28-0**	**0.00198**		**6.98E-4**
Vanadium	**7440-62-2**	**0.727**		**0.0371**
Zinc	7440-66-6	11.9	U	92.4

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021125-HM
Matrix: Air
Lab ID: 5021837-28
Sample Volume: 2116.882 m³
Filter ID:
Sampled: 02/11/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 08:50

Comments: Q9524298 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0205	SL, U	0.0269
Arsenic	**7440-38-2**	**0.00792**	FB-01	**0.00683**
Barium	7440-39-3	0.750	U	1.18
Beryllium	7440-41-7	1.10E-4	U	0.00146
Cadmium	7440-43-9	9.93E-4	U	0.00394
Chromium	7440-47-3	0.677	U	1.88
Cobalt	7440-48-4	0.0103	U	0.0400
Copper	**7440-50-8**	**1.46**	FB-01	**0.578**
Lead	7439-92-1	0.0416	U	0.103
Manganese	7439-96-5	0.193	U	0.428
Molybdenum	7439-98-7	0.128	U	0.303
Nickel	7440-02-0	0.206	U	0.568
Selenium	7782-49-2	ND	LJ, QX, U	0.00776
Thallium	7440-28-0	7.55E-5	U	6.62E-4
Vanadium	7440-62-2	0.0258	U	0.0352
Zinc	7440-66-6	10.6	U	87.6

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021225-HM
Matrix: Air
Lab ID: 5021837-29
Sample Volume: 2123.986 m³
Filter ID:
Sampled: 02/12/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 09:03

Comments: Q9524304 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.230**		**0.00681**
Barium	**7440-39-3**	**4.06**		**1.18**
Beryllium	**7440-41-7**	**0.00859**		**0.00146**
Cadmium	**7440-43-9**	**0.0204**		**0.00392**
Chromium	7440-47-3	1.36	U	1.87
Cobalt	**7440-48-4**	**0.238**		**0.0398**
Copper	**7440-50-8**	**34.5**		**0.576**
Lead	**7439-92-1**	**0.445**		**0.103**
Manganese	**7439-96-5**	**8.60**		**0.427**
Molybdenum	**7439-98-7**	**1.94**		**0.302**
Nickel	**7440-02-0**	**0.967**		**0.566**
Selenium	**7782-49-2**	**0.297**	LJ, QX	**0.00774**
Thallium	**7440-28-0**	**0.00255**		**6.60E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0351**
Zinc	7440-66-6	16.6	U	87.3

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021225-HM
Matrix: Air
Lab ID: 5021837-30
Sample Volume: 2136.04€ m³
Filter ID:
Sampled: 02/12/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 09:16

Comments: Q9524303 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.187**	SL	**0.0267**
Arsenic	**7440-38-2**	**0.288**		**0.00677**
Barium	**7440-39-3**	**5.17**		**1.17**
Beryllium	**7440-41-7**	**0.0114**		**0.00145**
Cadmium	**7440-43-9**	**0.0284**		**0.00390**
Chromium	7440-47-3	1.56	U	1.86
Cobalt	**7440-48-4**	**0.312**		**0.0396**
Copper	**7440-50-8**	**66.0**		**0.573**
Lead	**7439-92-1**	**0.614**		**0.102**
Manganese	**7439-96-5**	**10.5**		**0.424**
Molybdenum	**7439-98-7**	**3.34**		**0.300**
Nickel	**7440-02-0**	**1.22**		**0.563**
Selenium	**7782-49-2**	**0.324**	LJ, QX	**0.00769**
Thallium	**7440-28-0**	**0.00263**		**6.56E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0349**
Zinc	7440-66-6	16.9	U	86.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021225-HM
Matrix: Air
Lab ID: 5021837-31
Sample Volume: 1982.596 m³
Filter ID:
Sampled: 02/12/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 10:43

Comments: Q9524300 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.244**		**0.00730**
Barium	**7440-39-3**	**3.07**		**1.26**
Beryllium	**7440-41-7**	**0.00762**		**0.00156**
Cadmium	**7440-43-9**	**0.0206**		**0.00420**
Chromium	7440-47-3	1.48	U	2.00
Cobalt	**7440-48-4**	**0.189**		**0.0427**
Copper	**7440-50-8**	**33.9**		**0.617**
Lead	**7439-92-1**	**0.581**		**0.110**
Manganese	**7439-96-5**	**6.67**		**0.457**
Molybdenum	**7439-98-7**	**1.67**		**0.323**
Nickel	**7440-02-0**	**0.903**		**0.606**
Selenium	**7782-49-2**	**0.289**	LJ, QX	**0.00829**
Thallium	**7440-28-0**	**0.00271**		**7.07E-4**
Vanadium	**7440-62-2**	**0.929**		**0.0376**
Zinc	7440-66-6	12.5	U	93.6

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021225-HM
Matrix: Air
Lab ID: 5021837-32
Sample Volume: 1949.003 m³
Filter ID:
Sampled: 02/12/25 23:59
Received: 02/17/25 07:15
Analysis Date: 02/22/25 11:01

Comments: Q9524299 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.287**		**0.00742**
Barium	**7440-39-3**	**2.88**		**1.29**
Beryllium	**7440-41-7**	**0.00782**		**0.00159**
Cadmium	**7440-43-9**	**0.0185**		**0.00427**
Chromium	7440-47-3	1.32	U	2.04
Cobalt	**7440-48-4**	**0.202**		**0.0434**
Copper	**7440-50-8**	**37.0**		**0.628**
Lead	**7439-92-1**	**0.423**		**0.112**
Manganese	**7439-96-5**	**7.56**		**0.465**
Molybdenum	**7439-98-7**	**2.29**		**0.329**
Nickel	**7440-02-0**	**0.871**		**0.617**
Selenium	**7782-49-2**	**0.277**	LJ, QX	**0.00843**
Thallium	**7440-28-0**	**0.00244**		**7.19E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0382**
Zinc	7440-66-6	11.6	U	95.2

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REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Blank (2502045-CCB1)				Prepared & Analyzed: 02/21/25						
Antimony	0.415		ng/l							
Arsenic	2.60		ng/l							
Barium	1.78		ng/l							
Beryllium	-0.781		ng/l							U
Cadmium	0.0945		ng/l							
Chromium	8.71		ng/l							
Cobalt	0.558		ng/l							
Copper	17.6		ng/l							
Lead	1.27		ng/l							
Manganese	3.53		ng/l							
Molybdenum	25.2		ng/l							
Nickel	0.335		ng/l							
Selenium	-12.6		ng/l							LJ, QX, U
Thallium	1.18		ng/l							
Vanadium	16.0		ng/l							
Zinc	-50.2		ng/l							U
Calibration Blank (2502045-CCB2)				Prepared & Analyzed: 02/21/25						
Antimony	0.00822		ng/l							
Arsenic	6.30		ng/l							
Barium	0.746		ng/l							
Beryllium	-0.889		ng/l							U
Cadmium	0.124		ng/l							
Chromium	9.64		ng/l							
Cobalt	0.182		ng/l							
Copper	13.0		ng/l							
Lead	0.670		ng/l							
Manganese	3.10		ng/l							
Molybdenum	6.71		ng/l							
Nickel	1.66		ng/l							
Selenium	-14.7		ng/l							LJ, QX, U
Thallium	1.02		ng/l							
Vanadium	7.41		ng/l							
Zinc	-44.9		ng/l							U
Calibration Blank (2502045-CCB3)				Prepared & Analyzed: 02/21/25						
Antimony	0.0610		ng/l							
Arsenic	18.2		ng/l							
Barium	0.119		ng/l							
Beryllium	-1.12		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Blank (2502045-CCB3) Contin				Prepared & Analyzed: 02/21/25						
Cadmium	0.0685		ng/l							
Chromium	9.28		ng/l							
Cobalt	0.154		ng/l							
Copper	9.69		ng/l							
Lead	0.299		ng/l							
Manganese	2.95		ng/l							
Molybdenum	5.73		ng/l							
Nickel	0.396		ng/l							
Selenium	-12.2		ng/l							LJ, QX, U
Thallium	1.15		ng/l							
Vanadium	-7.10		ng/l							U
Zinc	-43.3		ng/l							U
Calibration Blank (2502045-CCB4)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	-0.0350		ng/l							U
Arsenic	16.7		ng/l							
Barium	0.344		ng/l							
Beryllium	-1.27		ng/l							U
Cadmium	-0.0548		ng/l							U
Chromium	10.4		ng/l							
Cobalt	0.316		ng/l							
Copper	16.7		ng/l							
Lead	0.783		ng/l							
Manganese	3.07		ng/l							
Molybdenum	8.54		ng/l							
Nickel	4.46		ng/l							
Selenium	-9.25		ng/l							LJ, QX, U
Thallium	1.42		ng/l							
Vanadium	-7.06		ng/l							U
Zinc	-9.14		ng/l							U
Calibration Blank (2502045-CCB5)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	0.831		ng/l							
Arsenic	14.1		ng/l							
Barium	1.55		ng/l							
Beryllium	-1.48		ng/l							U
Cadmium	0.0562		ng/l							
Chromium	10.2		ng/l							
Cobalt	0.151		ng/l							
Copper	18.5		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Blank (2502045-CCB5) Contin				Prepared: 02/21/25 Analyzed: 02/22/25						
Lead	1.15		ng/l							
Manganese	4.07		ng/l							
Molybdenum	9.27		ng/l							
Nickel	1.86		ng/l							
Selenium	-16.9		ng/l							LJ, QX, U
Thallium	1.48		ng/l							
Vanadium	-11.0		ng/l							U
Zinc	-12.7		ng/l							U
Calibration Blank (2502045-CCB6)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	0.110		ng/l							
Arsenic	6.88		ng/l							
Barium	0.560		ng/l							
Beryllium	-1.65		ng/l							U
Cadmium	0.149		ng/l							
Chromium	8.90		ng/l							
Cobalt	0.151		ng/l							
Copper	13.9		ng/l							
Lead	0.973		ng/l							
Manganese	3.29		ng/l							
Molybdenum	7.94		ng/l							
Nickel	3.12		ng/l							
Selenium	3.35		ng/l							LJ, QX
Thallium	1.75		ng/l							
Vanadium	-12.5		ng/l							U
Zinc	-20.3		ng/l							U
Calibration Blank (2502045-CCB7)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	0.596		ng/l							
Arsenic	16.1		ng/l							
Barium	-0.147		ng/l							U
Beryllium	-1.52		ng/l							U
Cadmium	0.0411		ng/l							
Chromium	8.48		ng/l							
Cobalt	0.290		ng/l							
Copper	8.24		ng/l							
Lead	0.272		ng/l							
Manganese	2.09		ng/l							
Molybdenum	7.32		ng/l							
Nickel	2.97		ng/l							

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Blank (2502045-CCB7) Contin				Prepared: 02/21/25 Analyzed: 02/22/25						
Selenium	-8.89		ng/l							LJ, QX, U
Thallium	1.38		ng/l							
Vanadium	-14.1		ng/l							U
Zinc	-11.5		ng/l							U
Calibration Check (2502045-CCV1)				Prepared & Analyzed: 02/21/25						
Antimony	20200		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		100	90-110			
Barium	199000		ng/l	200200		99.3	90-110			
Beryllium	4930		ng/l	5002.5		98.6	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	246000		ng/l	240050		103	90-110			
Cobalt	51900		ng/l	50020		104	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	508000		ng/l	498900		102	90-110			
Molybdenum	50900		ng/l	50005		102	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	19800		ng/l	20002		98.8	90-110			LJ, QX
Thallium	495		ng/l	499.95		99.1	90-110			
Vanadium	20200		ng/l	20030		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2502045-CCV2)				Prepared & Analyzed: 02/21/25						
Antimony	20300		ng/l	20008		102	90-110			
Arsenic	20100		ng/l	20004		101	90-110			
Barium	199000		ng/l	200200		99.2	90-110			
Beryllium	4930		ng/l	5002.5		98.6	90-110			
Cadmium	20500		ng/l	20014		103	90-110			
Chromium	245000		ng/l	240050		102	90-110			
Cobalt	51100		ng/l	50020		102	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	200000		ng/l	200060		99.9	90-110			
Manganese	510000		ng/l	498900		102	90-110			
Molybdenum	51100		ng/l	50005		102	90-110			
Nickel	123000		ng/l	120040		102	90-110			
Selenium	19900		ng/l	20002		99.7	90-110			LJ, QX
Thallium	478		ng/l	499.95		95.5	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	512000		ng/l	500000		102	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Check (2502045-CCV3)				Prepared & Analyzed: 02/21/25						
Antimony	20400		ng/l	20008		102	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	202000		ng/l	200200		101	90-110			
Beryllium	4940		ng/l	5002.5		98.8	90-110			
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	51500		ng/l	50020		103	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	512000		ng/l	498900		103	90-110			
Molybdenum	51800		ng/l	50005		104	90-110			
Nickel	124000		ng/l	120040		103	90-110			
Selenium	19700		ng/l	20002		98.6	90-110			LJ, QX
Thallium	474		ng/l	499.95		94.8	90-110			
Vanadium	20300		ng/l	20030		102	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2502045-CCV4)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	206000		ng/l	200200		103	90-110			
Beryllium	4990		ng/l	5002.5		99.8	90-110			
Cadmium	21100		ng/l	20014		105	90-110			
Chromium	252000		ng/l	240050		105	90-110			
Cobalt	52500		ng/l	50020		105	90-110			
Copper	2.17E6		ng/l	2.0020E6		109	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	522000		ng/l	498900		105	90-110			
Molybdenum	53100		ng/l	50005		106	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	20100		ng/l	20002		101	90-110			LJ, QX
Thallium	480		ng/l	499.95		96.0	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2502045-CCV5)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		103	90-110			
Beryllium	5030		ng/l	5002.5		100	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Check (2502045-CCV5) Contin				Prepared: 02/21/25 Analyzed: 02/22/25						
Cadmium	21100		ng/l	20014		106	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	52400		ng/l	50020		105	90-110			
Copper	2.18E6		ng/l	2.0020E6		109	90-110			
Lead	206000		ng/l	200060		103	90-110			
Manganese	522000		ng/l	498900		105	90-110			
Molybdenum	53400		ng/l	50005		107	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	20300		ng/l	20002		102	90-110			LJ, QX
Thallium	476		ng/l	499.95		95.3	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2502045-CCV6)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	20900		ng/l	20008		104	90-110			
Arsenic	20600		ng/l	20004		103	90-110			
Barium	207000		ng/l	200200		104	90-110			
Beryllium	5020		ng/l	5002.5		100	90-110			
Cadmium	21200		ng/l	20014		106	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	52500		ng/l	50020		105	90-110			
Copper	2.20E6		ng/l	2.0020E6		110	90-110			
Lead	206000		ng/l	200060		103	90-110			
Manganese	526000		ng/l	498900		105	90-110			
Molybdenum	53400		ng/l	50005		107	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	20500		ng/l	20002		102	90-110			LJ, QX
Thallium	466		ng/l	499.95		93.1	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2502045-CCV7)				Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	20200		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		99.9	90-110			
Barium	199000		ng/l	200200		99.4	90-110			
Beryllium	4950		ng/l	5002.5		99.0	90-110			
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	242000		ng/l	240050		101	90-110			
Cobalt	50900		ng/l	50020		102	90-110			
Copper	2.15E6		ng/l	2.0020E6		107	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Calibration Check (2502045-CCV7) Contin				Prepared: 02/21/25 Analyzed: 02/22/25						
Lead	200000		ng/l	200060		99.8	90-110			
Manganese	514000		ng/l	498900		103	90-110			
Molybdenum	51400		ng/l	50005		103	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	19700		ng/l	20002		98.2	90-110			LJ, QX
Thallium	451		ng/l	499.95		90.2	90-110			
Vanadium	19900		ng/l	20030		99.5	90-110			
Zinc	510000		ng/l	500000		102	90-110			
High Cal Check (2502045-HCV1)				Prepared & Analyzed: 02/21/25						
Antimony	39800		ng/l	40016		99.4	95-105			
Arsenic	39700		ng/l	40008		99.2	95-105			
Barium	396000		ng/l	400400		98.9	95-105			
Beryllium	9970		ng/l	10005		99.6	95-105			
Cadmium	39600		ng/l	40028		99.0	95-105			
Chromium	475000		ng/l	480100		98.9	95-105			
Cobalt	98100		ng/l	100040		98.1	95-105			
Copper	3.95E6		ng/l	4.0040E6		98.6	95-105			
Lead	399000		ng/l	400120		99.8	95-105			
Manganese	985000		ng/l	997800		98.7	95-105			
Molybdenum	99500		ng/l	100010		99.5	95-105			
Nickel	236000		ng/l	240070		98.2	95-105			
Selenium	39700		ng/l	40004		99.4	95-105			LJ, QX
Thallium	989		ng/l	999.90		99.0	95-105			
Vanadium	39900		ng/l	40060		99.5	95-105			
Zinc	986000		ng/l	1.0000E6		98.6	95-105			
Initial Cal Blank (2502045-ICB1)				Prepared & Analyzed: 02/21/25						
Antimony	0.0996		ng/l							
Arsenic	1.15		ng/l							
Barium	-0.0293		ng/l							U
Beryllium	-0.784		ng/l							U
Cadmium	0.0456		ng/l							
Chromium	2.58		ng/l							
Cobalt	0.142		ng/l							
Copper	13.2		ng/l							
Lead	1.12		ng/l							
Manganese	5.65		ng/l							
Molybdenum	15.0		ng/l							
Nickel	-2.41		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Initial Cal Blank (2502045-ICB1) Continu				Prepared & Analyzed: 02/21/25						
Selenium	-13.3		ng/l							LJ, QX, U
Thallium	0.990		ng/l							
Vanadium	45.0		ng/l							
Zinc	-51.1		ng/l							U
Initial Cal Check (2502045-ICV1)				Prepared & Analyzed: 02/21/25						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Interference Check A (2502045-IFA1)				Prepared & Analyzed: 02/21/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	298000		ng/l	300000		99.3	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502045 - B5B2105										
Interference Check B (2502045-IFB1)					Prepared & Analyzed: 02/21/25					
Antimony	19800		ng/l	20008		99.0	80-120			
Arsenic	19600		ng/l	20004		98.2	80-120			
Barium	194000		ng/l	200200		96.8	80-120			
Beryllium	4750		ng/l	5002.5		95.0	80-120			
Cadmium	19300		ng/l	20014		96.4	80-120			
Chromium	224000		ng/l	240050		93.3	80-120			
Cobalt	48500		ng/l	50020		96.9	80-120			
Copper	1.87E6		ng/l	2.0020E6		93.2	80-120			
Lead	200000		ng/l	200060		99.8	80-120			
Manganese	498000		ng/l	498900		99.9	80-120			
Molybdenum	346000		ng/l	350000		98.9	80-120			
Nickel	113000		ng/l	120040		94.2	80-120			
Selenium	18500		ng/l	20002		92.4	80-120			LJ, QX
Thallium	500		ng/l	499.95		100	80-120			
Vanadium	18800		ng/l	20030		93.7	80-120			
Zinc	456000		ng/l	500000		91.1	80-120			
Batch B5B2105 - ICP-MS Extraction										
Blank (B5B2105-BLK1)					Prepared & Analyzed: 02/21/25					
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							LJ, QX, U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U
Zinc	ND	114	ng/m³ Air							U
LCS (B5B2105-BS1)					Prepared & Analyzed: 02/21/25					
Antimony	0.939	0.0350	ng/m³ Air	1.3835		67.9	80-120			SL
Arsenic	2.69	0.00889	ng/m³ Air	2.7664		97.3	80-120			
Barium	27.7	1.54	ng/m³ Air	27.686		100	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
LCS (B5B2105-BS1) Continued				Prepared & Analyzed: 02/21/25						
Beryllium	1.31	0.00190	ng/m³ Air	1.3836		94.5	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	14.7	2.44	ng/m³ Air	13.832		107	80-120			
Cobalt	1.39	0.0520	ng/m³ Air	1.3835		100	80-120			
Copper	29.1	0.752	ng/m³ Air	27.686		105	80-120			
Lead	13.6	0.134	ng/m³ Air	13.833		98.1	80-120			
Manganese	8.48	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.46	0.394	ng/m³ Air	1.3831		106	80-120			
Nickel	3.00	0.739	ng/m³ Air	2.7667		108	80-120			
Selenium	2.69	0.0101	ng/m³ Air	2.7661		97.2	80-120			LJ, QX
Thallium	0.133	8.61E-4	ng/m³ Air	0.13828		96.4	80-120			
Vanadium	2.77	0.0458	ng/m³ Air	2.7700		99.9	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2105-BS2)				Prepared & Analyzed: 02/21/25						
Antimony	0.960	0.0350	ng/m³ Air	1.3835		69.4	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.6	80-120			
Barium	27.8	1.54	ng/m³ Air	27.686		100	80-120			
Beryllium	1.33	0.00190	ng/m³ Air	1.3836		96.2	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	14.9	2.44	ng/m³ Air	13.832		107	80-120			
Cobalt	1.40	0.0520	ng/m³ Air	1.3835		101	80-120			
Copper	29.3	0.752	ng/m³ Air	27.686		106	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		98.8	80-120			
Manganese	8.58	0.557	ng/m³ Air	8.2792		104	80-120			
Molybdenum	1.47	0.394	ng/m³ Air	1.3831		106	80-120			
Nickel	3.04	0.739	ng/m³ Air	2.7667		110	80-120			
Selenium	2.71	0.0101	ng/m³ Air	2.7661		98.0	80-120			LJ, QX
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		96.9	80-120			
Vanadium	2.79	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2105-BS3)				Prepared & Analyzed: 02/21/25						
Antimony	1.37	0.0350	ng/m³ Air	1.3835		99.0	80-120			SL
Arsenic	2.70	0.00889	ng/m³ Air	2.7664		97.4	80-120			
Barium	27.2	1.54	ng/m³ Air	27.686		98.1	80-120			
Beryllium	1.33	0.00190	ng/m³ Air	1.3836		95.8	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	14.1	2.44	ng/m³ Air	13.832		102	80-120			
Cobalt	1.38	0.0520	ng/m³ Air	1.3835		100	80-120			

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
LCS (B5B2105-BS3) Continued				Prepared & Analyzed: 02/21/25						
Copper	28.4	0.752	ng/m³ Air	27.686		103	80-120			
Lead	13.5	0.134	ng/m³ Air	13.833		97.6	80-120			
Manganese	8.44	0.557	ng/m³ Air	8.2792		102	80-120			
Molybdenum	1.37	0.394	ng/m³ Air	1.3831		98.9	80-120			
Nickel	2.82	0.739	ng/m³ Air	2.7667		102	80-120			
Selenium	2.70	0.0101	ng/m³ Air	2.7661		97.5	80-120			LJ, QX
Thallium	0.132	8.61E-4	ng/m³ Air	0.13828		95.2	80-120			
Vanadium	2.76	0.0458	ng/m³ Air	2.7700		99.5	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2105-BS4)				Prepared & Analyzed: 02/21/25						
Antimony	1.40	0.0350	ng/m³ Air	1.3835		101	80-120			SL
Arsenic	2.74	0.00889	ng/m³ Air	2.7664		99.1	80-120			
Barium	27.5	1.54	ng/m³ Air	27.686		99.5	80-120			
Beryllium	1.32	0.00190	ng/m³ Air	1.3836		95.6	80-120			
Cadmium	1.42	0.00512	ng/m³ Air	1.3839		103	80-120			
Chromium	14.3	2.44	ng/m³ Air	13.832		103	80-120			
Cobalt	1.40	0.0520	ng/m³ Air	1.3835		101	80-120			
Copper	28.8	0.752	ng/m³ Air	27.686		104	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		99.0	80-120			
Manganese	8.55	0.557	ng/m³ Air	8.2792		103	80-120			
Molybdenum	1.39	0.394	ng/m³ Air	1.3831		100	80-120			
Nickel	2.85	0.739	ng/m³ Air	2.7667		103	80-120			
Selenium	2.77	0.0101	ng/m³ Air	2.7661		100	80-120			LJ, QX
Thallium	0.133	8.61E-4	ng/m³ Air	0.13828		96.0	80-120			
Vanadium	2.79	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5B2105-DUP1)		**Source: 5021837-03**		Prepared & Analyzed: 02/21/25						
Antimony	0.192	0.0297	ng/m³ Air		0.188			2.08	10	SL
Arsenic	0.376	0.00754	ng/m³ Air		0.247			41.3	10	D-F
Barium	4.54	1.31	ng/m³ Air		4.68			2.92	10	
Beryllium	0.00985	0.00161	ng/m³ Air		0.00967			1.86	10	
Cadmium	0.0138	0.00434	ng/m³ Air		0.0148			7.65	10	
Chromium	2.40	2.07	ng/m³ Air		2.58			7.39	10	
Cobalt	0.293	0.0441	ng/m³ Air		0.291			0.711	10	
Copper	31.9	0.638	ng/m³ Air		31.3			1.94	10	
Lead	0.693	0.114	ng/m³ Air		0.797			13.9	10	
Manganese	8.73	0.472	ng/m³ Air		8.77			0.485	10	
Molybdenum	1.68	0.334	ng/m³ Air		1.53			9.25	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Duplicate (B5B2105-DUP1) Continued			**Source: 5021837-03**		Prepared & Analyzed: 02/21/25					
Nickel	1.62	0.627	ng/m³ Air		1.53			5.61	10	
Selenium	0.148	0.00857	ng/m³ Air		0.140			5.37	10	LJ, QX
Thallium	0.00133	7.30E-4	ng/m³ Air		0.00133			0.576	10	
Vanadium	0.779	0.0389	ng/m³ Air		0.770			1.10	10	
Zinc	ND	96.7	ng/m³ Air		ND				10	U
Duplicate (B5B2105-DUP2)			**Source: 5021837-24**		Prepared & Analyzed: 02/21/25					
Antimony	0.172	0.0269	ng/m³ Air		0.172			0.119	10	SL
Arsenic	0.215	0.00683	ng/m³ Air		0.217			0.882	10	
Barium	4.66	1.18	ng/m³ Air		4.63			0.684	10	
Beryllium	0.00982	0.00146	ng/m³ Air		0.00991			0.885	10	
Cadmium	0.0205	0.00394	ng/m³ Air		0.0409			66.5	10	D-F
Chromium	2.07	1.88	ng/m³ Air		ND				10	
Cobalt	0.279	0.0400	ng/m³ Air		0.283			1.57	10	
Copper	25.2	0.578	ng/m³ Air		23.2			8.52	10	
Lead	0.451	0.103	ng/m³ Air		0.446			1.20	10	
Manganese	9.63	0.428	ng/m³ Air		9.75			1.27	10	
Molybdenum	1.37	0.303	ng/m³ Air		1.31			4.87	10	
Nickel	1.09	0.568	ng/m³ Air		1.09			0.260	10	
Selenium	0.196	0.00776	ng/m³ Air		0.205			4.78	10	LJ, QX
Thallium	0.00209	6.62E-4	ng/m³ Air		0.00205			2.13	10	
Vanadium	1.04	0.0352	ng/m³ Air		1.04			0.581	10	
Zinc	ND	87.6	ng/m³ Air		ND				10	U
Duplicate (B5B2105-DUP3)			**Source: 5021837-11**		Prepared: 02/21/25 Analyzed: 02/22/25					
Antimony	0.546	0.0274	ng/m³ Air		0.540			1.17	10	SL
Arsenic	0.303	0.00695	ng/m³ Air		0.290			4.42	10	
Barium	5.48	1.20	ng/m³ Air		5.46			0.362	10	
Beryllium	0.0101	0.00149	ng/m³ Air		0.0101			0.271	10	
Cadmium	0.0484	0.00400	ng/m³ Air		0.0477			1.46	10	
Chromium	ND	1.91	ng/m³ Air		ND				10	U
Cobalt	0.254	0.0406	ng/m³ Air		0.251			1.11	10	
Copper	53.5	0.588	ng/m³ Air		52.6			1.71	10	
Lead	0.672	0.105	ng/m³ Air		0.670			0.314	10	
Manganese	9.43	0.435	ng/m³ Air		9.32			1.10	10	
Molybdenum	3.04	0.308	ng/m³ Air		3.03			0.392	10	
Nickel	1.17	0.578	ng/m³ Air		1.16			1.30	10	
Selenium	0.211	0.00789	ng/m³ Air		0.210			0.580	10	LJ, QX
Thallium	0.00293	6.73E-4	ng/m³ Air		0.00300			2.19	10	
Vanadium	1.08	0.0358	ng/m³ Air		1.08			0.405	10	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Duplicate (B5B2105-DUP3) Continued		**Source: 5021837-11**		Prepared: 02/21/25 Analyzed: 02/22/25						
Zinc	ND	89.1	ng/m³ Air		ND				10	U
Duplicate (B5B2105-DUP4)		**Source: 5021837-32**		Prepared: 02/21/25 Analyzed: 02/22/25						
Antimony	0.110	0.0292	ng/m³ Air		0.111			1.07	10	SL
Arsenic	0.286	0.00742	ng/m³ Air		0.287			0.383	10	
Barium	2.90	1.29	ng/m³ Air		2.88			0.600	10	
Beryllium	0.00733	0.00159	ng/m³ Air		0.00782			6.52	10	
Cadmium	0.0187	0.00427	ng/m³ Air		0.0185			1.16	10	
Chromium	ND	2.04	ng/m³ Air		ND				10	U
Cobalt	0.206	0.0434	ng/m³ Air		0.202			1.61	10	
Copper	37.4	0.628	ng/m³ Air		37.0			1.22	10	
Lead	0.425	0.112	ng/m³ Air		0.423			0.489	10	
Manganese	7.64	0.465	ng/m³ Air		7.56			0.978	10	
Molybdenum	2.31	0.329	ng/m³ Air		2.29			0.800	10	
Nickel	0.882	0.617	ng/m³ Air		0.871			1.21	10	
Selenium	0.285	0.00843	ng/m³ Air		0.277			2.61	10	LJ, QX
Thallium	0.00255	7.19E-4	ng/m³ Air		0.00244			4.43	10	
Vanadium	1.12	0.0382	ng/m³ Air		1.11			0.826	10	
Zinc	ND	95.2	ng/m³ Air		ND				10	U
Matrix Spike (B5B2105-MS1)		**Source: 5021837-03**		Prepared & Analyzed: 02/21/25						
Antimony	0.888	0.0297	ng/m³ Air	1.1735	0.188	59.7	80-120			SL
Arsenic	2.48	0.00754	ng/m³ Air	2.3466	0.247	95.3	80-120			
Barium	27.6	1.31	ng/m³ Air	23.485	4.68	97.6	80-120			
Beryllium	1.17	0.00161	ng/m³ Air	1.1737	0.00967	98.9	80-120			
Cadmium	1.20	0.00434	ng/m³ Air	1.1739	0.0148	101	80-120			
Chromium	13.8	2.07	ng/m³ Air	11.733	2.58	95.3	80-120			
Cobalt	1.46	0.0441	ng/m³ Air	1.1735	0.291	99.6	80-120			
Copper	57.3	0.638	ng/m³ Air	23.485	31.3	110	80-120			
Lead	11.7	0.114	ng/m³ Air	11.734	0.797	92.6	80-120			
Manganese	15.7	0.472	ng/m³ Air	7.0229	8.77	98.9	80-120			
Molybdenum	2.95	0.334	ng/m³ Air	1.1732	1.53	121	80-120			QM-07
Nickel	3.76	0.627	ng/m³ Air	2.3468	1.53	95.1	80-120			
Selenium	2.35	0.00857	ng/m³ Air	2.3464	0.140	94.2	80-120			LJ, QX
Thallium	0.105	7.30E-4	ng/m³ Air	0.11730	0.00133	88.5	80-120			
Vanadium	3.08	0.0389	ng/m³ Air	2.3497	0.770	98.3	80-120			
Zinc	102	96.7	ng/m³ Air	70.384	ND	145	80-120			
Matrix Spike (B5B2105-MS2)		**Source: 5021837-24**		Prepared & Analyzed: 02/21/25						
Antimony	0.848	0.0269	ng/m³ Air	1.0633	0.172	63.6	80-120			SL
Arsenic	2.33	0.00683	ng/m³ Air	2.1262	0.217	99.4	80-120			

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Matrix Spike (B5B2105-MS2) Continued Source: 5021837-24 Prepared & Analyzed: 02/21/25										
Barium	26.0	1.18	ng/m³ Air	21.279	4.63	101	80-120			
Beryllium	1.04	0.00146	ng/m³ Air	1.0634	0.00991	96.6	80-120			
Cadmium	1.12	0.00394	ng/m³ Air	1.0636	0.0409	101	80-120			
Chromium	12.9	1.88	ng/m³ Air	10.631	ND	122	80-120			
Cobalt	1.38	0.0400	ng/m³ Air	1.0633	0.283	103	80-120			
Copper	46.6	0.578	ng/m³ Air	21.279	23.2	110	80-120			
Lead	11.2	0.103	ng/m³ Air	10.632	0.446	101	80-120			
Manganese	16.5	0.428	ng/m³ Air	6.3633	9.75	105	80-120			
Molybdenum	2.40	0.303	ng/m³ Air	1.0630	1.31	102	80-120			
Nickel	3.32	0.568	ng/m³ Air	2.1264	1.09	105	80-120			
Selenium	2.30	0.00776	ng/m³ Air	2.1260	0.205	98.6	80-120			LJ, QX
Thallium	0.105	6.62E-4	ng/m³ Air	0.10628	0.00205	97.3	80-120			
Vanadium	3.22	0.0352	ng/m³ Air	2.1290	1.04	102	80-120			
Zinc	ND	87.6	ng/m³ Air	63.773	ND		80-120			U
Matrix Spike Dup (B5B2105-MSD1) Source: 5021837-03 Prepared & Analyzed: 02/21/25										
Antimony	0.924	0.0297	ng/m³ Air	1.1735	0.188	62.7	80-120	3.93	20	SL
Arsenic	2.52	0.00754	ng/m³ Air	2.3466	0.247	96.9	80-120	1.49	20	
Barium	27.8	1.31	ng/m³ Air	23.485	4.68	98.6	80-120	0.881	20	
Beryllium	1.15	0.00161	ng/m³ Air	1.1737	0.00967	97.4	80-120	1.56	20	
Cadmium	1.22	0.00434	ng/m³ Air	1.1739	0.0148	103	80-120	2.21	20	
Chromium	13.7	2.07	ng/m³ Air	11.733	2.58	94.7	80-120	0.524	20	
Cobalt	1.47	0.0441	ng/m³ Air	1.1735	0.291	101	80-120	0.858	20	
Copper	59.7	0.638	ng/m³ Air	23.485	31.3	121	80-120	4.16	20	QM-07
Lead	12.2	0.114	ng/m³ Air	11.734	0.797	96.8	80-120	4.22	20	
Manganese	15.7	0.472	ng/m³ Air	7.0229	8.77	98.1	80-120	0.359	20	
Molybdenum	2.89	0.334	ng/m³ Air	1.1732	1.53	116	80-120	2.19	20	
Nickel	3.61	0.627	ng/m³ Air	2.3468	1.53	88.6	80-120	4.18	20	
Selenium	2.41	0.00857	ng/m³ Air	2.3464	0.140	96.8	80-120	2.51	20	LJ, QX
Thallium	0.110	7.30E-4	ng/m³ Air	0.11730	0.00133	92.5	80-120	4.40	20	
Vanadium	3.10	0.0389	ng/m³ Air	2.3497	0.770	99.1	80-120	0.583	20	
Zinc	ND	96.7	ng/m³ Air	70.384	ND		80-120		20	U
Matrix Spike Dup (B5B2105-MSD2) Source: 5021837-24 Prepared & Analyzed: 02/21/25										
Antimony	0.865	0.0269	ng/m³ Air	1.0633	0.172	65.2	80-120	1.97	20	SL
Arsenic	2.32	0.00683	ng/m³ Air	2.1262	0.217	99.0	80-120	0.351	20	
Barium	26.2	1.18	ng/m³ Air	21.279	4.63	101	80-120	0.550	20	
Beryllium	1.03	0.00146	ng/m³ Air	1.0634	0.00991	95.9	80-120	0.719	20	
Cadmium	1.12	0.00394	ng/m³ Air	1.0636	0.0409	101	80-120	0.273	20	
Chromium	12.6	1.88	ng/m³ Air	10.631	ND	119	80-120	2.50	20	

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Matrix Spike Dup (B5B2105-MSD2) Conti		**Source: 5021837-24**			Prepared & Analyzed: 02/21/25					
Cobalt	1.38	0.0400	ng/m³ Air	1.0633	0.283	103	80-120	0.0833	20	
Copper	47.4	0.578	ng/m³ Air	21.279	23.2	114	80-120	1.79	20	
Lead	11.2	0.103	ng/m³ Air	10.632	0.446	101	80-120	0.278	20	
Manganese	16.7	0.428	ng/m³ Air	6.3633	9.75	109	80-120	1.36	20	
Molybdenum	2.43	0.303	ng/m³ Air	1.0630	1.31	106	80-120	1.56	20	
Nickel	3.27	0.568	ng/m³ Air	2.1264	1.09	103	80-120	1.32	20	
Selenium	2.26	0.00776	ng/m³ Air	2.1260	0.205	96.6	80-120	1.84	20	LJ, QX
Thallium	0.105	6.62E-4	ng/m³ Air	0.10628	0.00205	96.8	80-120	0.504	20	
Vanadium	3.21	0.0352	ng/m³ Air	2.1290	1.04	102	80-120	0.176	20	
Zinc	ND	87.6	ng/m³ Air	63.773	ND		80-120		20	U
Post Spike (B5B2105-PS1)		**Source: 5021837-03**			Prepared & Analyzed: 02/21/25					
Antimony	0.417	0.0297	ng/m³ Air	0.23461	0.188	97.4	75-125			SL
Arsenic	1.37	0.00754	ng/m³ Air	1.1731	0.247	95.7	75-125			
Barium	6.80	1.31	ng/m³ Air	2.3461	4.68	90.3	75-125			
Beryllium	0.243	0.00161	ng/m³ Air	0.23461	0.00967	99.2	75-125			
Cadmium	0.134	0.00434	ng/m³ Air	0.11731	0.0148	101	75-125			
Chromium	3.65	2.07	ng/m³ Air	1.1731	2.58	91.6	75-125			
Cobalt	0.522	0.0441	ng/m³ Air	0.23461	0.291	98.6	75-125			
Copper	42.7	0.638	ng/m³ Air	11.731	31.3	97.1	75-125			
Lead	22.7	0.114	ng/m³ Air	23.461	0.797	93.6	75-125			
Manganese	10.9	0.472	ng/m³ Air	2.3461	8.77	92.2	75-125			
Molybdenum	2.63	0.334	ng/m³ Air	1.1731	1.53	93.2	75-125			
Nickel	3.83	0.627	ng/m³ Air	2.3461	1.53	98.1	75-125			
Selenium	1.29	0.00857	ng/m³ Air	1.1731	0.140	98.1	75-125			LJ, QX
Thallium	0.0548	7.30E-4	ng/m³ Air	5.8654E-2	0.00133	91.2	75-125			
Vanadium	1.92	0.0389	ng/m³ Air	1.1731	0.770	97.8	75-125			
Zinc	ND	96.7	ng/m³ Air	23.461	ND		75-125			U
Post Spike (B5B2105-PS2)		**Source: 5021837-24**			Prepared & Analyzed: 02/21/25					
Antimony	0.383	0.0269	ng/m³ Air	0.21258	0.172	99.1	75-125			SL
Arsenic	1.25	0.00683	ng/m³ Air	1.0629	0.217	97.4	75-125			
Barium	6.72	1.18	ng/m³ Air	2.1258	4.63	98.2	75-125			
Beryllium	0.218	0.00146	ng/m³ Air	0.21258	0.00991	98.0	75-125			
Cadmium	0.150	0.00394	ng/m³ Air	0.10629	0.0409	102	75-125			
Chromium	2.90	1.88	ng/m³ Air	1.0629	ND	273	75-125			
Cobalt	0.502	0.0400	ng/m³ Air	0.21258	0.283	103	75-125			
Copper	34.3	0.578	ng/m³ Air	10.629	23.2	105	75-125			
Lead	21.8	0.103	ng/m³ Air	21.258	0.446	101	75-125			
Manganese	11.9	0.428	ng/m³ Air	2.1258	9.75	99.5	75-125			

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Post Spike (B5B2105-PS2) Continued		**Source: 5021837-24**		Prepared & Analyzed: 02/21/25						
Molybdenum	2.36	0.303	ng/m³ Air	1.0629	1.31	99.1	75-125			
Nickel	3.21	0.568	ng/m³ Air	2.1258	1.09	99.9	75-125			
Selenium	1.26	0.00776	ng/m³ Air	1.0629	0.205	99.3	75-125			LJ, QX
Thallium	0.0537	6.62E-4	ng/m³ Air	5.3144E-2	0.00205	97.2	75-125			
Vanadium	2.10	0.0352	ng/m³ Air	1.0629	1.04	99.3	75-125			
Zinc	ND	87.6	ng/m³ Air	21.258	ND		75-125			U
Dilution Check (B5B2105-SRL1)		**Source: 5021837-03**		Prepared & Analyzed: 02/21/25						
Antimony	0.179	0.148	ng/m³ Air		0.188			5.28	10	SL
Arsenic	0.253	0.0377	ng/m³ Air		0.247			2.36	10	
Barium	ND	6.53	ng/m³ Air		ND				10	U
Beryllium	0.00909	0.00806	ng/m³ Air		0.00967			6.10	10	
Cadmium	ND	0.0217	ng/m³ Air		ND				10	U
Chromium	ND	10.3	ng/m³ Air		ND				10	U
Cobalt	0.287	0.221	ng/m³ Air		0.291			1.30	10	
Copper	30.7	3.19	ng/m³ Air		31.3			1.98	10	
Lead	0.803	0.568	ng/m³ Air		0.797			0.843	10	
Manganese	8.52	2.36	ng/m³ Air		8.77			2.91	10	
Molybdenum	ND	1.67	ng/m³ Air		ND				10	U
Nickel	ND	3.13	ng/m³ Air		ND				10	U
Selenium	0.118	0.0428	ng/m³ Air		0.140			16.9	10	LJ, QX
Thallium	ND	0.00365	ng/m³ Air		ND				10	U
Vanadium	0.785	0.194	ng/m³ Air		0.770			1.88	10	
Zinc	ND	484	ng/m³ Air		ND				10	U
Dilution Check (B5B2105-SRL2)		**Source: 5021837-24**		Prepared & Analyzed: 02/21/25						
Antimony	0.165	0.135	ng/m³ Air		0.172			3.97	10	SL
Arsenic	0.230	0.0342	ng/m³ Air		0.217			5.81	10	
Barium	ND	5.92	ng/m³ Air		ND				10	U
Beryllium	0.00885	0.00730	ng/m³ Air		0.00991			11.3	10	
Cadmium	0.0429	0.0197	ng/m³ Air		0.0409			4.80	10	
Chromium	ND	9.38	ng/m³ Air		ND				10	U
Cobalt	0.286	0.200	ng/m³ Air		0.283			1.12	10	
Copper	23.6	2.89	ng/m³ Air		23.2			1.68	10	
Lead	ND	0.515	ng/m³ Air		ND				10	U
Manganese	9.76	2.14	ng/m³ Air		9.75			0.0705	10	
Molybdenum	ND	1.51	ng/m³ Air		ND				10	U
Nickel	ND	2.84	ng/m³ Air		ND				10	U
Selenium	0.197	0.0388	ng/m³ Air		0.205			4.27	10	LJ, QX
Thallium	0.00331	0.00331	ng/m³ Air		ND				10	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2105 - ICP-MS Extraction										
Dilution Check (B5B2105-SRL2) ContinueSource: 5021837-24 Prepared & Analyzed: 02/21/25										
Vanadium	1.08	0.176	ng/m³ Air		1.04			3.99	10	
Zinc	ND	438	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 02/26/25 13:50
SUBMITTED: 02/17/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/26/2025 and Shanna Vasser 02/28/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 02/06/2025 – 02/12/2025
Report No: 5021837

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for antimony, arsenic, and copper in MFL-FB01-020725-HM, for barium and copper in MFL-FB01-020925-HM, and for arsenic and copper in MFL-FB01-021125-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

February 13 through February 19, 2025

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until Hawaii Department of Health (HDOH) advises otherwise.

Particulate monitoring and air sampling occurred from February 13 through February 19, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)
- Maria Lanakila Catholic Church (AM-09)

At the request of HDOH, Tetra Tech demobilized on February 19 due to the completion of debris removal activities. Demobilizations took place between the hours of 11:00 and 14:00 on February 19. During this period, the field team shutdown the air monitoring and sampling stations and demobilized the equipment which included shipping the monitoring equipment off the island the following day, February 20.

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 13 through February 19, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and project demobilization, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at Maria Lanakila Catholic Church (AM-09) for four hours on February 17, resulting in the collection of 20 hours of PM_{10} data.
- Because of project demobilization, the air monitoring period was interrupted at all monitoring stations on February 19 as described below:
    - WW Pump Station #4 (AM-02) collected 11 hours of PM_{10} data prior to demobilization
    - Opukea Townhomes (AM-05) collected 14 hours of PM_{10} data prior to demobilization
    - Lahaina Pump Station #6 (AM-08) collected 13 hours of PM_{10} data prior to demobilization
    - Maria Lanakila Catholic Church (AM-09) collected 12 hours of PM_{10} data prior to demobilization

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for all samples collected except for the following monitoring stations:

- Opukea Townhomes (AM-05) on February 19
- Lahaina Pump Station #6 (AM-08) on February 19

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually

and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

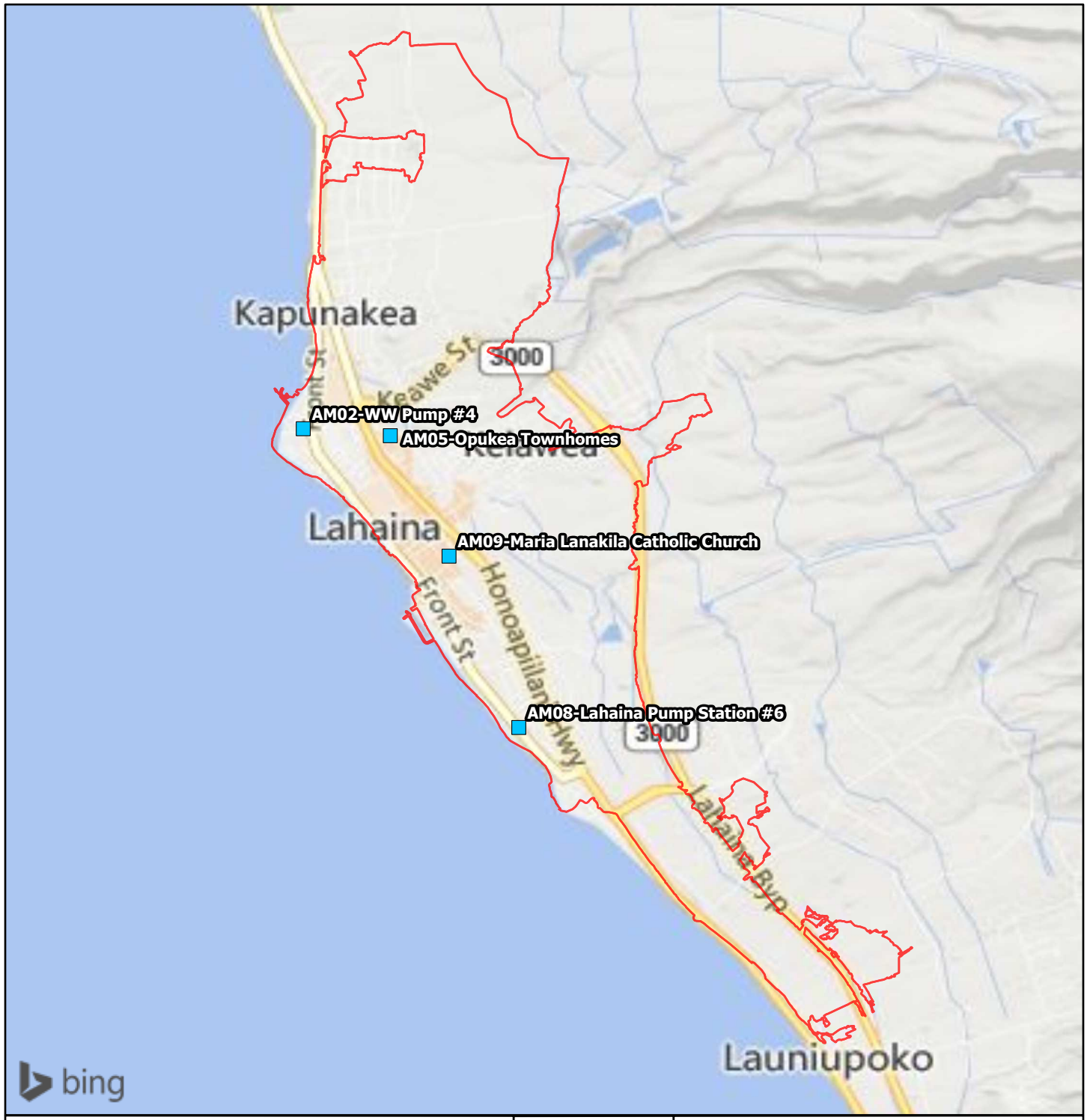
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



Lahaina Fire Perimeter

Air Sampling Locations

N

0 0.25 0.5

Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Path: \\etss706gisfs1\CORPArcGisShare\EMI\Denver\Lahaina_Fire\Lahaina_Fire\Lahaina_Fire.aprx\Lahaina_Fire_AM01-AM09

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
February 13 through February 19, 2025

Screening Level		TWA Results 150 (µg/m³)
2/13/2025	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	9.6
	Maria Lanakila Catholic Church (AM-09)	16
	Lahaina Pump Station #6 (AM-08)	11
2/14/2025	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	6.8
	Maria Lanakila Catholic Church (AM-09)	15
	Lahaina Pump Station #6 (AM-08)	7.9
2/15/2025	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	8.3
	Maria Lanakila Catholic Church (AM-09)	8.7
	Lahaina Pump Station #6 (AM-08)	8.3
2/16/2025	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	7.7
	Maria Lanakila Catholic Church (AM-09)	12
	Lahaina Pump Station #6 (AM-08)	8.1
2/17/2025	Opukea Townhomes (AM-05)	15
	WW Pump Station #4 (AM-02)	12
	Maria Lanakila Catholic Church (AM-09)	17*
	Lahaina Pump Station #6 (AM-08)	21
2/18/2025	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	5.5
	Maria Lanakila Catholic Church (AM-09)	114
	Lahaina Pump Station #6 (AM-08)	103
2/19/2025	Opukea Townhomes (AM-05)	6.3**
	WW Pump Station #4 (AM-02)	4.9**
	Maria Lanakila Catholic Church (AM-09)	5.9**
	Lahaina Pump Station #6 (AM-08)	5.1**

Notes:
µg/m³ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided are from a reduced (20-hr) TWA calculation because of an equipment fault
** Data provided are from a reduced TWA calculation (discussed in report) because of project demobilization

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
February 13 through February 19, 2025

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
2/13/2025	Opukea Townhomes (AM-05)	<0.0024	0.000170	0.000615	0.00875	0.0000330	0.0000407	0.00364	0.000955	0.0355	0.000950	0.0413	0.00165	0.00225	0.000335	0.00000404	0.00360	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000445	0.000310	0.00989	0.0000180	0.0000164	0.00232	0.000489	0.0575	0.000829	0.0170	0.00313	0.00162	0.000275	0.00000221	0.00207	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000183	0.000265	0.00472	0.0000112	0.0000182	ND	0.000281	0.0287	0.000703	0.0102	0.00132	0.00121	0.000287	0.00000228	0.00152	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000111	0.000270	0.00331	0.00000829	0.0000198	ND	0.000216	0.0407	0.000452	0.00799	0.00251	0.000928	0.000289	0.00000226	0.00122	ND
2/14/2025	Opukea Townhomes (AM-05)	<0.0024	0.0000840	0.000232	0.00368	0.00000666	0.0000853	ND	0.000168	0.0227	0.000756	0.00690	0.00108	0.000714	0.000646	0.00000598	0.000601	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000114	0.000209	0.00255	0.00000624	0.0000597	ND	0.000144	0.0614	0.000556	0.00585	0.00320	0.000611	0.000623	0.00000607	0.000548	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000605	0.000205	0.00222	0.00000529	0.0000576	ND	0.000134	0.0416	0.000528	0.00479	0.00195	ND	0.000605	0.00000544	0.000420	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000157	0.000271	0.00287	0.00000682	0.0000601	ND	0.000210	0.0382	0.000499	0.00769	0.00204	0.000715	0.000589	0.00000543	0.000630	ND
2/15/2025	Opukea Townhomes (AM-05)	<0.0024	0.000139	0.000205	0.00433	0.00000823	0.0000522	ND	0.000244	0.0250	0.000498	0.00891	0.00133	0.000978	0.000456	0.00000690	0.00123	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000289	0.000247	0.00655	0.0000114	0.0000762	ND	0.000324	0.0643	0.000742	0.0110	0.00334	0.00117	0.000510	0.00000698	0.00158	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000111	0.000252	0.00337	0.00000567	0.0000486	ND	0.000153	0.0339	0.000442	0.00541	0.00135	0.000966	0.000468	0.00000679	0.000931	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000171	0.000306	0.00330	0.00000870	0.0000553	ND	0.000292	0.0494	0.000490	0.0111	0.00238	0.00101	0.000462	0.00000706	0.00141	ND
2/16/2025	Opukea Townhomes (AM-05)	<0.0024	0.000142	0.000153	0.00320	0.00000610	0.0000237	ND	0.000165	0.0318	0.000480	0.00644	0.00173	0.000738	0.000231	0.00000225	0.000905	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000262	0.000163	0.00459	0.00000661	0.0000579	0.00201	0.000183	0.0733	0.000564	0.00680	0.00355	0.00129	0.000248	0.00000230	0.00100	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000112	0.000298	0.00269	0.00000408	0.0000159	ND	0.000123	0.0453	0.000412	0.00443	0.00191	0.000776	0.000230	0.00000296	0.000736	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000123	0.000141	0.00225	0.00000353	0.0000156	ND	0.000103	0.0519	0.000263	0.00429	0.00209	ND	0.000217	0.00000197	0.000691	ND
2/17/2025	Opukea Townhomes (AM-05)	<0.0024	0.000113	0.000133	0.00272	0.00000500	0.0000221	ND	0.000143	0.0360	0.000348	0.00502	0.00139	0.000705	0.000160	0.00000191	0.000742	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000169	0.000102	0.00290	0.00000425	0.0000133	ND	0.000117	0.0729	0.000347	0.00444	0.00255	0.000617	0.000162	0.00000169	0.000703	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000107	0.000283	0.00287	0.00000379	0.0000235	ND	0.000126	0.0531	0.000753	0.00414	0.00182	0.00103	0.000228	0.00000229	0.000761	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000129	0.000132	0.00213	0.00000327	0.0000127	ND	0.0000925	0.0467	0.000262	0.00339	0.00215	ND	0.000200	0.00000229	0.000664	ND
2/18/2025	Opukea Townhomes (AM-05)	<0.0024	0.000183	0.000154	0.00419	0.00000461	0.0000601	ND	0.000169	0.0334	0.000404	0.00575	0.00164	0.000956	0.000275	0.00000457	0.000888	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000202	0.000196	0.00400	0.00000486	0.0000316	ND	0.000162	0.0921	0.000356	0.00533	0.00386	0.000849	0.000285	0.00000437	0.000928	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000116	0.000437	0.00392	0.00000665	0.0000328	ND	0.000219	0.0650	0.000773	0.00750	0.00226	0.000991	0.000288	0.00000435	0.00104	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000133	0.000232	0.00208	0.00000277	0.0000753	ND	0.0000865	0.0488	0.000397	0.00307	0.00193	0.000669	0.000265	0.00000363	0.000697	ND
2/19/2025	Opukea Townhomes (AM-05)	<0.0024	0.000132	0.000186	0.00417	0.00000951	0.000113	ND	0.000307	0.0332	0.000330	0.0108	0.00165	0.000950	0.000217	0.00000122	0.00133	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000271	0.000156	0.00505	0.00000737	0.0000158	ND	0.000239	0.0775	0.000424	0.00755	0.00386	0.000901	0.000204	0.00000110	0.00113	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000897	0.000148	0.00332	0.00000426	0.0000529	ND	0.000133	0.0362	0.000357	0.00461	0.00138	0.000812	0.000190	0.000000833	0.000788	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000131	0.000140	0.00221	0.00000378	0.00000877	ND	0.000119	0.0613	0.000206	0.00407	0.00212	0.000978	0.000165	0.000000835	0.000798	ND
95% Upper Confidence Limit[2]		NA	0.000180	0.000260	0.00440	0.00000900	0.0000570	NA	0.000260	0.0551	0.000580	0.00949	0.00247	0.00109	0.000380	0.00000470	0.00123	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 13 through February 19, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/13/2025	AM-02	WW Pump Station #4	1.1	SSE	76	71	761.3
2/13/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	76	71	760.9
2/13/2025	AM-05	Opukea Townhomes	1.4	SE	77	71	760.8
2/13/2025	AM-08	Lahaina Pump Station #6	1.7	SE	77	71	761.1
2/14/2025	AM-02	WW Pump Station #4	1.3	SSE	77	69	763.5
2/14/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSW	76	70	763.2
2/14/2025	AM-05	Opukea Townhomes	1.5	S	78	70	763.1
2/14/2025	AM-08	Lahaina Pump Station #6	1.8	SSE	78	68	763.4
2/15/2025	AM-02	WW Pump Station #4	1.0	SE	76	67	764.4
2/15/2025	AM-09	Maria Lanakila Catholic Church	1.1	SSE	76	66	764.1
2/15/2025	AM-05	Opukea Townhomes	1.3	SE	78	65	763.9
2/15/2025	AM-08	Lahaina Pump Station #6	1.7	SE	77	68	764.3
2/16/2025	AM-02	WW Pump Station #4	0.8	S	77	74	763.3
2/16/2025	AM-09	Maria Lanakila Catholic Church	1.1	S	76	74	762.9
2/16/2025	AM-05	Opukea Townhomes	0.9	ESE	79	73	762.7
2/16/2025	AM-08	Lahaina Pump Station #6	1.3	S	78	72	763.2
2/17/2025	AM-02	WW Pump Station #4	1.0	SSE	76	78	762.4
2/17/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	75	80	762.0
2/17/2025	AM-05	Opukea Townhomes	1.2	SSE	78	78	761.9
2/17/2025	AM-08	Lahaina Pump Station #6	1.7	SSE	77	76	762.3
2/18/2025	AM-02	WW Pump Station #4	0.8	S	77	71	762.6
2/18/2025	AM-09	Maria Lanakila Catholic Church	1.2	SSE	77	72	762.3
2/18/2025	AM-05	Opukea Townhomes	1.0	ESE	79	71	762.1
2/18/2025	AM-08	Lahaina Pump Station #6	1.4	SSE	78	70	762.6
2/19/2025	AM-02	WW Pump Station #4	0.9	ESE	74	76	763.8
2/19/2025	AM-09	Maria Lanakila Catholic Church	0.9	SE	74	77	763.4
2/19/2025	AM-05	Opukea Townhomes	1.1	S	77	73	763.0
2/19/2025	AM-08	Lahaina Pump Station #6	1.6	SE	76	74	763.7

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042503303
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021325-AB**		**Sample Description:**	**TEM0682924**
EMSL Sample Number:	042503303-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0001 **Customer Sample:** MFL-AM05-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B3	None Detected									
A5	G7	None Detected									
A5	J9	None Detected									
A6	C7	None Detected									
A6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503303
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021325-AB**		**Sample Description:**	**TEM0683154**
EMSL Sample Number:	042503303-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsu, fibers present.

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0002 **Customer Sample:** MFL-AM02-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	D4	None Detected									
B1	H3	None Detected									
B4	B2	None Detected									
B4	D5	None Detected									
B4	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021325-AB**		**Sample Description:**	**TEM0682884**
EMSL Sample Number:	042503303-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0003 **Customer Sample:** MFL-AM09-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J5	None Detected									
B5	G4	None Detected									
B5	C7	None Detected									
B6	D6	None Detected									
B6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503303
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires Lahaina**

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Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021325-AB**		**Sample Description:**	**TEM0683774**
EMSL Sample Number:	042503303-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0004 **Customer Sample:** MFL-AM08-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	I8	None Detected									
C1	E7	None Detected									
C2	J6	None Detected									
C2	F9	None Detected									
C2	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021325-AB**		**Sample Description:**	**TEM0683541**
EMSL Sample Number:	042503303-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0005 **Customer Sample:** MFL-FB01-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	A3	None Detected									
C5	E8	None Detected									
C5	G4	None Detected									
C5	I7	None Detected									
C6	B5	None Detected									
C6	F8	None Detected									
C6	J6	None Detected									
C7	H3	None Detected									
C7	H7	None Detected									
C7	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021425-AB**		**Sample Description:**	**TEM0683739**
EMSL Sample Number:	042503303-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7282.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0006 **Customer Sample:** MFL-AM05-021425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A4	None Detected									
D1	E2	None Detected									
D1	J5	None Detected									
D4	B5	None Detected									
D2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021425-AB**		**Sample Description:**	**TEM0683575**
EMSL Sample Number:	042503303-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7256.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0007 **Customer Sample:** MFL-AM02-021425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I7	None Detected									
D5	F4	None Detected									
D5	C7	None Detected									
D6	D5	None Detected									
D6	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021425-AB**		**Sample Description:**	**TEM0683637**
EMSL Sample Number:	042503303-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0008 **Customer Sample:** MFL-AM09-021425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	C3	None Detected									
E3	F8	None Detected									
E3	J5	None Detected									
E4	G6	None Detected									
E4	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021425-AB**		**Sample Description:**	**TEM0683785**
EMSL Sample Number:	042503303-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7295.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0009 **Customer Sample:** MFL-AM08-021425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E6	B6	None Detected									
E6	E4	None Detected									
E6	H7	None Detected									
E8	G9	None Detected									
E8	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021425-AB**		**Sample Description:**	**TEM0683953**
EMSL Sample Number:	042503303-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0010 **Customer Sample:** MFL-FB01-021425-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A4	None Detected									
F1	D9	None Detected									
F1	F4	None Detected									
F1	J2	None Detected									
F2	I7	None Detected									
F2	E5	None Detected									
F2	C8	None Detected									
F3	B6	None Detected									
F3	F3	None Detected									
F3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/26/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021525-AB**		**Sample Description:**	**TEM0683769**
EMSL Sample Number:	042503303-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7101.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0011 **Customer Sample:** MFL-AM05-021525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J5	None Detected									
F5	F3	None Detected									
F5	B6	None Detected									
F7	D3	None Detected									
F7	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021525-AB**		**Sample Description:**	**TEM0683727**
EMSL Sample Number:	042503303-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7184.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0012 **Customer Sample:** MFL-AM02-021525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	B7	None Detected									
G1	C6	None Detected									
G2	J5	None Detected									
G2	I2	None Detected									
G3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503303
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021525-AB**		**Sample Description:**	**TEM0683747**
EMSL Sample Number:	042503303-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0013 **Customer Sample:** MFL-AM09-021525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A9	None Detected									
G5	C10	None Detected									
G6	J6	None Detected									
G6	H5	None Detected									
G7	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021525-AB**		**Sample Description:**	**TEM0683691**
EMSL Sample Number:	042503303-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0014 **Customer Sample:** MFL-AM08-021525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	C6	None Detected									
H1	D7	None Detected									
H2	A5	None Detected									
H2	B4	None Detected									
H3	E9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021525-AB**		**Sample Description:**	**TEM0683662**
EMSL Sample Number:	042503303-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0015 **Customer Sample:** MFL-FB01-021525-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	F8	None Detected									
H5	F10	None Detected									
H5	G7	None Detected									
H5	G9	None Detected									
H6	I4	None Detected									
H6	I6	None Detected									
H6	J5	None Detected									
H7	C7	None Detected									
H7	C5	None Detected									
H7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021625-AB**		**Sample Description:**	**TEM0683843**
EMSL Sample Number:	042503303-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0016 **Customer Sample:** MFL-AM05-021625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J7	None Detected									
I1	H6	None Detected									
I2	I4	None Detected									
I2	G8	None Detected									
I3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021625-AB**		**Sample Description:**	**TEM0683867**
EMSL Sample Number:	042503303-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0017 **Customer Sample:** MFL-AM02-021625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	H7	None Detected									
I6	A3	None Detected									
I6	B2	None Detected									
I7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021625-AB**		**Sample Description:**	**TEM0683680**
EMSL Sample Number:	042503303-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7246.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0018 **Customer Sample:** MFL-AM09-021625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I5	None Detected									
J1	H6	None Detected									
J2	F8	None Detected									
J2	E7	None Detected									
J3	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021625-AB**		**Sample Description:**	**TEM0683612**
EMSL Sample Number:	042503303-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7350.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0019 **Customer Sample:** MFL-AM08-021625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H10	None Detected									
J5	G9	None Detected									
J6	J5	None Detected									
J6	I4	None Detected									
J7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	02/28/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021625-AB**		**Sample Description:**	**TEM0683863**
EMSL Sample Number:	042503303-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0020 **Customer Sample:** MFL-FB01-021625-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J9	None Detected									
K1	J7	None Detected									
K1	H8	None Detected									
K1	H6	None Detected									
K2	I5	None Detected									
K2	I3	None Detected									
K2	G4	None Detected									
K3	F4	None Detected									
K3	F2	None Detected									
K3	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-021325-AB**		**Sample Description:**	**TEM0683547**
EMSL Sample Number:	042503303-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0021 **Customer Sample:** MFL-LB01-021325-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A3	None Detected									
K5	A5	None Detected									
K5	B4	None Detected									
K5	B6	None Detected									
K6	C5	None Detected									
K6	C7	None Detected									
K6	D4	None Detected									
K7	H7	None Detected									
K7	H9	None Detected									
K7	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042503303-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503303
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503303-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	G7	None Detected									
A1	E3	None Detected									
A1	A6	None Detected									
A2	B3	None Detected									
A2	F3	None Detected									
A2	I3	None Detected									
A3	C4	None Detected									
A3	F6	None Detected									
A3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042503303

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 2025 FEB 24 A 10:05

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Itai Bojdak-Yates
Sampled By Signature:
No. of Samples in Shipment: 20 21

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-021325-AB	TEM0682924	7170.026	02/13/25 1051
MFL-AM02-021325-AB	TEM0683154	7219.308	02/13/25 1105
MFL-AM09-021325-AB	TEM0682884	7165.209	02/13/25 1250
MFL-AM08-021325-AB	TEM0683774	7251.246	02/13/25 1307
MFL-FB01-021325-AB	TEM0683541	0	02/13/25 1200
MFL-AM05-021425-AB	TEM0683739	7282.512	02/14/25 1054
MFL-AM02-021425-AB	TEM0683575	7256.448	02/14/25 1108
MFL-AM09-021425-AB	TEM0683637	7204.608	02/14/25 1253

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

21

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by:	Itai Bojdak-Yates	Date/Time: 02/17/25 1100	Received by: FedEx	Date/Time	2/24/25 9:05A
Relinquished by:		Date/Time:	Received by:	Date/Time	

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042503303

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-021425-AB	TEM0683785	7295.222	02/14/25 1312
MFL-FB01-021425-AB	TEM0683953	0	02/14/25 1200
MFL-AM05-021525-AB	TEM0683769	7101.738	02/15/25 1054
MFL-AM02-021525-AB	TEM0683727	7184.483	02/15/25 1110
MFL-AM09-021525-AB	TEM0683747	7148.990	02/15/25 1250
MFL-AM08-021525-AB	TEM0683691	7188.611	02/15/25 1305
MFL-FB01-021525-AB	TEM0683662	0	02/15/25 1200
MFL-AM05-021625-AB	TEM0683843	7241.890	02/16/25 1059
MFL-AM02-021625-AB	TEM0683867	7207.632	02/16/25 M13
MFL-AM09-021625-AB	TEM0683680	7246.372	02/16/25 1252
MFL-AM08-021625-AB	TEM0683612	7350.830	02/16/25 1305
MFL-FB01-021625-AB	TEM0683863	0	02/16/25 1200
MFL-LB01-021325-AB	TEM0683547	0	02/13/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2025 FEB 24 A 10:08

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: Itai Bojdak-Yates	Date/Time: 02/17/25 1100	Received by: FedEX	Date/Time 2/24/25 9:05A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-08 Asbestos R16 10/29/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 03/03/2025 and Shanna Vasser 03/06/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/13/2025 – 02/16/2025
Report No: 42503303

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042503307
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021725-AB**		**Sample Description:**	**TEM0683638**
EMSL Sample Number:	042503307-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0001 **Customer Sample:** MFL-AM05-021725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	I8	None Detected									
A5	F4	None Detected									
A5	A5	None Detected									
A6	C4	None Detected									
A6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042503307
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021725-AB**		**Sample Description:**	**TEM0683711**
EMSL Sample Number:	042503307-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0002 **Customer Sample:** MFL-AM02-021725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B6	None Detected									
B1	E3	None Detected									
B1	G6	None Detected									
B2	A8	None Detected									
B2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042503307
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021725-AB**		**Sample Description:**	**TEM0683642**
EMSL Sample Number:	042503307-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0003 **Customer Sample:** MFL-AM09-021725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A3	None Detected									
B5	E7	None Detected									
B5	I4	None Detected									
B6	G7	None Detected									
B6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021725-AB**		**Sample Description:**	**TEM0683716**
EMSL Sample Number:	042503307-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7317.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0004 **Customer Sample:** MFL-AM08-021725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	B3	None Detected									
C1	F4	None Detected									
C1	H7	None Detected									
C2	D5	None Detected									
C2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021725-AB**		**Sample Description:**	**TEM0683695**
EMSL Sample Number:	042503307-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0005 **Customer Sample:** MFL-FB01-021725-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B6	None Detected									
C5	E3	None Detected									
C5	G6	None Detected									
C5	J9	None Detected									
C6	A5	None Detected									
C6	D7	None Detected									
C6	H4	None Detected									
C7	J8	None Detected									
C7	F4	None Detected									
C7	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021825-AB**		**Sample Description:**	**TEM0683634**
EMSL Sample Number:	042503307-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0006 **Customer Sample:** MFL-AM05-021825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	I7	None Detected									
D1	E4	None Detected									
D1	A6	None Detected									
D2	D3	None Detected									
D2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/27/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021825-AB**		**Sample Description:**	**TEM0683614**
EMSL Sample Number:	042503307-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0007 **Customer Sample:** MFL-AM02-021825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I5	None Detected									
D5	E3	None Detected									
D5	C6	None Detected									
D6	G8	None Detected									
D6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503307
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021825-AB**		**Sample Description:**	**TEM0683766**
EMSL Sample Number:	042503307-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7172.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0008 **Customer Sample:** MFL-AM09-021825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	F4	None Detected									
E2	A7	None Detected									
E3	H9	None Detected									
E3	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021825-AB**		**Sample Description:**	**TEM0683878**
EMSL Sample Number:	042503307-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0009 **Customer Sample:** MFL-AM08-021825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	D3	None Detected									
E6	C4	None Detected									
E6	F2	None Detected									
E6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021825-AB**		**Sample Description:**	**TEM0683762**
EMSL Sample Number:	042503307-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0010 **Customer Sample:** MFL-FB01-021825-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A3	None Detected									
F1	E2	None Detected									
F1	H8	None Detected									
F1	J4	None Detected									
F2	I7	None Detected									
F2	G4	None Detected									
F2	D7	None Detected									
F3	B6	None Detected									
F3	E3	None Detected									
F3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-021925-AB**		**Sample Description:**	**TEM0683633**
EMSL Sample Number:	042503307-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0011 **Customer Sample:** MFL-AM05-021925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I6	None Detected									
F5	F8	None Detected									
F5	B4	None Detected									
F6	D3	None Detected									
F6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	02/24/2025 09:05 AM
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021925-AB**		**Sample Description:**	**TEM0683550**
EMSL Sample Number:	042503307-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0012 **Customer Sample:** MFL-AM02-021925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G3	C5	None Detected									
G3	F7	None Detected									
G4	A6	None Detected									
G4	E3	None Detected									
G4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503307
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM09-021925-AB**		**Sample Description:**	**TEM0683683**
EMSL Sample Number:	042503307-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0013 **Customer Sample:** MFL-AM09-021925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	D7	None Detected									
G5	G2	None Detected									
G5	I7	None Detected									
G6	J6	None Detected									
G6	E8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM08-021925-AB**		**Sample Description:**	**TEM0683818**
EMSL Sample Number:	042503307-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7320.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0014 **Customer Sample:** MFL-AM08-021925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	A3	None Detected									
H1	E7	None Detected									
H1	I5	None Detected									
H2	B6	None Detected									
H2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/28/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021925-AB**		**Sample Description:**	**TEM0683744**
EMSL Sample Number:	042503307-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042503307
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0015 **Customer Sample:** MFL-FB01-021925-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	A5	None Detected									
H6	D3	None Detected									
H6	G6	None Detected									
H6	J3	None Detected									
H7	J8	None Detected									
H7	F4	None Detected									
H7	A7	None Detected									
H8	I9	None Detected									
H8	E5	None Detected									
H8	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042503307
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Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/24/2025 09:05 AM
Analysis Date:	02/24/2025
Report Date:	03/03/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042503307-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042503307-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A8	None Detected									
A1	D6	None Detected									
A2	I9	None Detected									
A2	G4	None Detected									
A2	E9	None Detected									
A2	B7	None Detected									
A3	H8	None Detected									
A3	F6	None Detected									
A3	D10	None Detected									
A3	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042503307

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If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: (703) 489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

RECEIVED EMSL CINNAMINSON, NJ 25 FEB 24 AM10: 0

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Itai Bojdak-Yates
Sampled By Signature:
No. of Samples In Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-021725-AB	TEM0683638	7225.405	02/17/25 1053
MFL-AM02-021725-AB	TEM0683711	7228.736	02/17/25 1108
MFL-AM09-021725-AB	TEM0683642	7232.400	02/17/25 1254
MFL-AM08-021725-AB	TEM0683716	7317.429	02/17/25 1310
MFL-FB01-021725-AB	TEM0683695	0	02/17/25 1200
MFL-AM05-021825-AB	TEM0683634	7196.227	02/18/25 1053
MFL-AM02-021825-AB	TEM0683614	7212.310	02/18/25 1107
MFL-AM09-021825-AB	TEM0683766	7172.130	02/18/25 1245

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15 CB

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: Itai Bojdak-Yates Date/Time: 02/20/25 1100
Received by: FedEx Date/Time 2/24/25 9:05A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042503307

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM08-021825-AB	TEM0683878	7110.038	02/18/25 1259
MFL-FB01-021825-AB	TEM0683762	0	02/18/25 1200
MFL-AM05-021925-AB	TEM0683633	7203.699	02/19/25 1050
MFL-AM02-021925-AB	TEM0683550	7241.728	02/19/25 1105
MFL-AM09-021925-AB	TEM0683683	7177.104	02/19/25 1248
MFL-AM08-021925-AB	TEM0683818	7320.783	02/19/25 1310
MFL-FB01-021925-AB	TEM0683744	0	02/19/25 1200

RECEIVED
EMSL
CINNAMINSON, NJ
25 FEB 24 AM 10:01

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: Itai Bojdak-Yates	Date/Time: 02/20/25 1100	Received by: FedEx	Date/Time 2/24/25 9:05 A
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 03/03/2025 and Shanna Vasser 03/06/2025
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/17/2025 – 02/19/2025
Report No: 42503307

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

March 04, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 02/24/25 11:05.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-021325-HM	5022427-01	Air	02/13/25 23:59	02/24/25 11:05
MFL-AM02-021325-HM	5022427-02	Air	02/13/25 23:59	02/24/25 11:05
MFL-AM09-021325-HM	5022427-03	Air	02/13/25 23:59	02/24/25 11:05
MFL-AM08-021325-HM	5022427-04	Air	02/13/25 23:59	02/24/25 11:05
MFL-FB01-021325-HM	5022427-05	Air	02/13/25 00:00	02/24/25 11:05
MFL-AM05-021425-HM	5022427-06	Air	02/14/25 23:59	02/24/25 11:05
MFL-AM02-021425-HM	5022427-07	Air	02/14/25 23:59	02/24/25 11:05
MFL-AM09-021425-HM	5022427-08	Air	02/14/25 23:59	02/24/25 11:05
MFL-AM08-021425-HM	5022427-09	Air	02/14/25 23:59	02/24/25 11:05
MFL-AM05-021525-HM	5022427-10	Air	02/15/25 23:59	02/24/25 11:05
MFL-AM02-021525-HM	5022427-11	Air	02/15/25 23:59	02/24/25 11:05
MFL-AM09-021525-HM	5022427-12	Air	02/15/25 23:59	02/24/25 11:05
MFL-AM08-021525-HM	5022427-13	Air	02/15/25 23:59	02/24/25 11:05
MFL-FB01-021525-HM	5022427-14	Air	02/15/25 00:00	02/24/25 11:05
MFL-AM05-021625-HM	5022427-15	Air	02/16/25 23:59	02/24/25 11:05
MFL-AM02-021625-HM	5022427-16	Air	02/16/25 23:59	02/24/25 11:05
MFL-AM09-021625-HM	5022427-17	Air	02/16/25 23:59	02/24/25 11:05
MFL-AM08-021625-HM	5022427-18	Air	02/16/25 23:59	02/24/25 11:05
MFL-AM05-021725-HM	5022427-19	Air	02/17/25 23:59	02/24/25 11:05
MFL-AM02-021725-HM	5022427-20	Air	02/17/25 23:59	02/24/25 11:05
MFL-AM09-021725-HM	5022427-21	Air	02/17/25 23:59	02/24/25 11:05

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM08-021725-HM	5022427-22	Air	02/17/25 23:59	02/24/25 11:05
MFL-FB01-021725-HM	5022427-23	Air	02/17/25 00:00	02/24/25 11:05
MFL-AM05-021825-HM	5022427-24	Air	02/18/25 23:59	02/24/25 11:05
MFL-AM02-021825-HM	5022427-25	Air	02/18/25 23:59	02/24/25 11:05
MFL-AM09-021825-HM	5022427-26	Air	02/18/25 23:59	02/24/25 11:05
MFL-AM08-021825-HM	5022427-27	Air	02/18/25 23:59	02/24/25 11:05
MFL-AM05-021925-HM	5022427-28	Air	02/19/25 23:59	02/24/25 11:05
MFL-AM02-021925-HM	5022427-29	Air	02/19/25 23:59	02/24/25 11:05
MFL-AM09-021925-HM	5022427-30	Air	02/19/25 23:59	02/24/25 11:05
MFL-AM08-021925-HM	5022427-31	Air	02/19/25 23:59	02/24/25 11:05
MFL-FB01-021925-HM	5022427-32	Air	02/19/25 00:00	02/24/25 11:05

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021325-HM
Matrix: Air
Lab ID: 5022427-01
Sample Volume: 2134.137 m³
Filter ID:
Sampled: 02/13/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 03:12

Comments: Q9524297 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.170**	SL	**0.0267**
Arsenic	**7440-38-2**	**0.615**		**0.00678**
Barium	**7440-39-3**	**8.75**		**1.17**
Beryllium	**7440-41-7**	**0.0330**		**0.00145**
Cadmium	**7440-43-9**	**0.0407**		**0.00390**
Chromium	**7440-47-3**	**3.64**		**1.86**
Cobalt	**7440-48-4**	**0.955**		**0.0396**
Copper	**7440-50-8**	**35.5**		**0.573**
Lead	**7439-92-1**	**0.950**		**0.102**
Manganese	**7439-96-5**	**41.3**		**0.425**
Molybdenum	**7439-98-7**	**1.65**		**0.300**
Nickel	**7440-02-0**	**2.25**		**0.563**
Selenium	**7782-49-2**	**0.335**		**0.00770**
Thallium	**7440-28-0**	**0.00404**		**6.56E-4**
Vanadium	**7440-62-2**	**3.60**		**0.0349**
Zinc	7440-66-6	28.9	U	86.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021325-HM
Matrix: Air
Lab ID: 5022427-02
Sample Volume: 2121.758 m³
Filter ID:
Sampled: 02/13/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 03:31

Comments: Q9524296 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.445**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.310**		**0.00682**
Barium	**7440-39-3**	**9.89**		**1.18**
Beryllium	**7440-41-7**	**0.0180**		**0.00146**
Cadmium	**7440-43-9**	**0.0164**		**0.00393**
Chromium	**7440-47-3**	**2.32**		**1.87**
Cobalt	**7440-48-4**	**0.489**		**0.0399**
Copper	**7440-50-8**	**57.5**		**0.577**
Lead	**7439-92-1**	**0.829**		**0.103**
Manganese	**7439-96-5**	**17.0**		**0.427**
Molybdenum	**7439-98-7**	**3.13**		**0.302**
Nickel	**7440-02-0**	**1.62**		**0.567**
Selenium	**7782-49-2**	**0.275**		**0.00774**
Thallium	**7440-28-0**	**0.00221**		**6.60E-4**
Vanadium	**7440-62-2**	**2.07**		**0.0351**
Zinc	7440-66-6	27.0	U	87.4

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021325-HM
Matrix: Air
Lab ID: 5022427-03
Sample Volume: 2041.531 m³
Filter ID:
Sampled: 02/13/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 04:02

Comments: Q9524295 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.183**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.265**		**0.00708**
Barium	**7440-39-3**	**4.72**		**1.23**
Beryllium	**7440-41-7**	**0.0112**		**0.00151**
Cadmium	**7440-43-9**	**0.0182**		**0.00408**
Chromium	7440-47-3	1.59	U	1.94
Cobalt	**7440-48-4**	**0.281**		**0.0414**
Copper	**7440-50-8**	**28.7**		**0.599**
Lead	**7439-92-1**	**0.703**		**0.107**
Manganese	**7439-96-5**	**10.2**		**0.444**
Molybdenum	**7439-98-7**	**1.32**		**0.314**
Nickel	**7440-02-0**	**1.21**		**0.589**
Selenium	**7782-49-2**	**0.287**		**0.00805**
Thallium	**7440-28-0**	**0.00228**		**6.86E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0365**
Zinc	7440-66-6	15.2	U	90.9

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021325-HM
Matrix: Air
Lab ID: 5022427-04
Sample Volume: 1815.71 m³
Filter ID:
Sampled: 02/13/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 04:17

Comments: Q9524294 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.270**		**0.00797**
Barium	**7440-39-3**	**3.31**		**1.38**
Beryllium	**7440-41-7**	**0.00829**		**0.00170**
Cadmium	**7440-43-9**	**0.0198**		**0.00459**
Chromium	7440-47-3	1.44	U	2.19
Cobalt	**7440-48-4**	**0.216**		**0.0466**
Copper	**7440-50-8**	**40.7**		**0.674**
Lead	**7439-92-1**	**0.452**		**0.120**
Manganese	**7439-96-5**	**7.99**		**0.499**
Molybdenum	**7439-98-7**	**2.51**		**0.353**
Nickel	**7440-02-0**	**0.928**		**0.662**
Selenium	**7782-49-2**	**0.289**		**0.00905**
Thallium	**7440-28-0**	**0.00226**		**7.72E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0410**
Zinc	7440-66-6	11.3	U	102

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021325-HM
Matrix: Air
Lab ID: 5022427-05
Sample Volume: 2134.137 m³
Filter ID:
Sampled: 02/13/25 00:00
Received: 02/24/25 11:05
Analysis Date: 02/26/25 04:31

Comments: Q9524292 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0147	SL, U	0.0267
Arsenic	7440-38-2	0.00593	U	0.00678
Barium	7440-39-3	0.596	U	1.17
Beryllium	7440-41-7	9.43E-5	U	0.00145
Cadmium	7440-43-9	4.70E-4	U	0.00390
Chromium	7440-47-3	0.616	U	1.86
Cobalt	7440-48-4	0.00498	U	0.0396
Copper	7440-50-8	0.198	U	0.573
Lead	7439-92-1	0.0254	U	0.102
Manganese	7439-96-5	0.179	U	0.425
Molybdenum	7439-98-7	0.0769	U	0.300
Nickel	7440-02-0	0.170	U	0.563
Selenium	7782-49-2	0.00275	U	0.00770
Thallium	7440-28-0	6.98E-5	U	6.56E-4
Vanadium	7440-62-2	0.00633	U	0.0349
Zinc	7440-66-6	5.21	U	86.9

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021425-HM
Matrix: Air
Lab ID: 5022427-06
Sample Volume: 2125.762 m³
Filter ID:
Sampled: 02/14/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 04:44

Comments: Q9524290 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0840**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.232**		**0.00680**
Barium	**7440-39-3**	**3.68**		**1.18**
Beryllium	**7440-41-7**	**0.00666**		**0.00145**
Cadmium	**7440-43-9**	**0.0853**		**0.00392**
Chromium	7440-47-3	1.27	U	1.87
Cobalt	**7440-48-4**	**0.168**		**0.0398**
Copper	**7440-50-8**	**22.7**		**0.576**
Lead	**7439-92-1**	**0.756**		**0.103**
Manganese	**7439-96-5**	**6.90**		**0.426**
Molybdenum	**7439-98-7**	**1.08**		**0.302**
Nickel	**7440-02-0**	**0.714**		**0.566**
Selenium	**7782-49-2**	**0.646**		**0.00773**
Thallium	**7440-28-0**	**0.00598**		**6.59E-4**
Vanadium	**7440-62-2**	**0.601**		**0.0351**
Zinc	7440-66-6	14.8	U	87.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021425-HM
Matrix: Air
Lab ID: 5022427-07
Sample Volume: 2120.249 m³
Filter ID:
Sampled: 02/14/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 04:58

Comments: Q9524289 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0269**
Arsenic	**7440-38-2**	**0.209**		**0.00682**
Barium	**7440-39-3**	**2.55**		**1.18**
Beryllium	**7440-41-7**	**0.00624**		**0.00146**
Cadmium	**7440-43-9**	**0.0597**		**0.00393**
Chromium	7440-47-3	1.30	U	1.87
Cobalt	**7440-48-4**	**0.144**		**0.0399**
Copper	**7440-50-8**	**61.4**		**0.577**
Lead	**7439-92-1**	**0.556**		**0.103**
Manganese	**7439-96-5**	**5.85**		**0.427**
Molybdenum	**7439-98-7**	**3.20**		**0.302**
Nickel	**7440-02-0**	**0.611**		**0.567**
Selenium	**7782-49-2**	**0.623**		**0.00775**
Thallium	**7440-28-0**	**0.00607**		**6.61E-4**
Vanadium	**7440-62-2**	**0.548**		**0.0351**
Zinc	7440-66-6	18.2	U	87.5

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021425-HM
Matrix: Air
Lab ID: 5022427-08
Sample Volume: 2029.797 m³
Filter ID:
Sampled: 02/14/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 05:12

Comments: Q9524288 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0605**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.205**		**0.00713**
Barium	**7440-39-3**	**2.22**		**1.23**
Beryllium	**7440-41-7**	**0.00529**		**0.00152**
Cadmium	**7440-43-9**	**0.0576**		**0.00410**
Chromium	7440-47-3	1.17	U	1.96
Cobalt	**7440-48-4**	**0.134**		**0.0417**
Copper	**7440-50-8**	**41.6**		**0.603**
Lead	**7439-92-1**	**0.528**		**0.107**
Manganese	**7439-96-5**	**4.79**		**0.446**
Molybdenum	**7439-98-7**	**1.95**		**0.316**
Nickel	7440-02-0	0.580	U	0.592
Selenium	**7782-49-2**	**0.605**		**0.00810**
Thallium	**7440-28-0**	**0.00544**		**6.90E-4**
Vanadium	**7440-62-2**	**0.420**		**0.0367**
Zinc	7440-66-6	9.19	U	91.4

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021425-HM
Matrix: Air
Lab ID: 5022427-09
Sample Volume: 2003.896 m³
Filter ID:
Sampled: 02/14/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 05:27

Comments: Q9524284 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0284**
Arsenic	**7440-38-2**	**0.271**		**0.00722**
Barium	**7440-39-3**	**2.87**		**1.25**
Beryllium	**7440-41-7**	**0.00682**		**0.00154**
Cadmium	**7440-43-9**	**0.0601**		**0.00416**
Chromium	7440-47-3	1.39	U	1.98
Cobalt	**7440-48-4**	**0.210**		**0.0422**
Copper	**7440-50-8**	**38.2**		**0.611**
Lead	**7439-92-1**	**0.499**		**0.109**
Manganese	**7439-96-5**	**7.69**		**0.452**
Molybdenum	**7439-98-7**	**2.04**		**0.320**
Nickel	**7440-02-0**	**0.715**		**0.600**
Selenium	**7782-49-2**	**0.589**		**0.00820**
Thallium	**7440-28-0**	**0.00543**		**6.99E-4**
Vanadium	**7440-62-2**	**0.630**		**0.0372**
Zinc	7440-66-6	11.9	U	92.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021525-HM
Matrix: Air
Lab ID: 5022427-10
Sample Volume: 2142.21 m³
Filter ID:
Sampled: 02/15/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 06:33

Comments: Q9524282 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0266**
Arsenic	**7440-38-2**	**0.205**		**0.00675**
Barium	**7440-39-3**	**4.33**		**1.17**
Beryllium	**7440-41-7**	**0.00823**		**0.00144**
Cadmium	**7440-43-9**	**0.0522**		**0.00389**
Chromium	7440-47-3	1.61	U	1.85
Cobalt	**7440-48-4**	**0.244**		**0.0395**
Copper	**7440-50-8**	**25.0**		**0.571**
Lead	**7439-92-1**	**0.498**		**0.102**
Manganese	**7439-96-5**	**8.91**		**0.423**
Molybdenum	**7439-98-7**	**1.33**		**0.299**
Nickel	**7440-02-0**	**0.978**		**0.561**
Selenium	**7782-49-2**	**0.456**		**0.00767**
Thallium	**7440-28-0**	**0.00690**		**6.54E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0348**
Zinc	7440-66-6	13.6	U	86.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021525-HM
Matrix: Air
Lab ID: 5022427-11
Sample Volume: 2149.113 m³
Filter ID:
Sampled: 02/15/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 06:50

Comments: Q9524281 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.289**	SL	**0.0265**
Arsenic	**7440-38-2**	**0.247**		**0.00673**
Barium	**7440-39-3**	**6.55**		**1.17**
Beryllium	**7440-41-7**	**0.0114**		**0.00144**
Cadmium	**7440-43-9**	**0.0762**		**0.00388**
Chromium	7440-47-3	1.75	U	1.85
Cobalt	**7440-48-4**	**0.324**		**0.0394**
Copper	**7440-50-8**	**64.3**		**0.569**
Lead	**7439-92-1**	**0.742**		**0.101**
Manganese	**7439-96-5**	**11.0**		**0.422**
Molybdenum	**7439-98-7**	**3.34**		**0.298**
Nickel	**7440-02-0**	**1.17**		**0.559**
Selenium	**7782-49-2**	**0.510**		**0.00765**
Thallium	**7440-28-0**	**0.00698**		**6.52E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0347**
Zinc	7440-66-6	17.6	U	86.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021525-HM
Matrix: Air
Lab ID: 5022427-12
Sample Volume: 2074.952 m³
Filter ID:
Sampled: 02/15/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/25/25 20:53

Comments: Q9524280 MS/MSD - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.252**		**0.00697**
Barium	**7440-39-3**	**3.37**		**1.21**
Beryllium	**7440-41-7**	**0.00567**		**0.00149**
Cadmium	**7440-43-9**	**0.0486**		**0.00401**
Chromium	7440-47-3	1.42	U	1.91
Cobalt	**7440-48-4**	**0.153**		**0.0408**
Copper	**7440-50-8**	**33.9**		**0.590**
Lead	**7439-92-1**	**0.442**		**0.105**
Manganese	**7439-96-5**	**5.41**		**0.437**
Molybdenum	**7439-98-7**	**1.35**		**0.309**
Nickel	**7440-02-0**	**0.966**		**0.579**
Selenium	**7782-49-2**	**0.468**		**0.00792**
Thallium	**7440-28-0**	**0.00679**		**6.75E-4**
Vanadium	**7440-62-2**	**0.931**		**0.0359**
Zinc	7440-66-6	9.56	U	89.4

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021525-HM
Matrix: Air
Lab ID: 5022427-13
Sample Volume: 2015.011 m³
Filter ID:
Sampled: 02/15/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 07:05

Comments: Q9524279 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.171**	SL	**0.0283**
Arsenic	**7440-38-2**	**0.306**		**0.00718**
Barium	**7440-39-3**	**3.30**		**1.24**
Beryllium	**7440-41-7**	**0.00870**		**0.00153**
Cadmium	**7440-43-9**	**0.0553**		**0.00413**
Chromium	7440-47-3	1.68	U	1.97
Cobalt	**7440-48-4**	**0.292**		**0.0420**
Copper	**7440-50-8**	**49.4**		**0.607**
Lead	**7439-92-1**	**0.490**		**0.108**
Manganese	**7439-96-5**	**11.1**		**0.450**
Molybdenum	**7439-98-7**	**2.38**		**0.318**
Nickel	**7440-02-0**	**1.01**		**0.597**
Selenium	**7782-49-2**	**0.462**		**0.00816**
Thallium	**7440-28-0**	**0.00706**		**6.95E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0370**
Zinc	7440-66-6	11.8	U	92.0

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021525-HM
Matrix: Air
Lab ID: 5022427-14
Sample Volume: 2142.21 m³
Filter ID:
Sampled: 02/15/25 00:00
Received: 02/24/25 11:05
Analysis Date: 02/26/25 07:20

Comments: Q9524276 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0152	SL, U	0.0266
Arsenic	7440-38-2	0.00637	U	0.00675
Barium	7440-39-3	0.618	U	1.17
Beryllium	7440-41-7	1.14E-4	U	0.00144
Cadmium	7440-43-9	7.50E-4	U	0.00389
Chromium	7440-47-3	0.627	U	1.85
Cobalt	7440-48-4	0.00647	U	0.0395
Copper	7440-50-8	0.358	U	0.571
Lead	7439-92-1	0.0271	U	0.102
Manganese	7439-96-5	0.165	U	0.423
Molybdenum	7439-98-7	0.0819	U	0.299
Nickel	7440-02-0	0.164	U	0.561
Selenium	7782-49-2	0.00306	U	0.00767
Thallium	7440-28-0	1.06E-4	U	6.54E-4
Vanadium	7440-62-2	0.00935	U	0.0348
Zinc	7440-66-6	4.30	U	86.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021625-HM
Matrix: Air
Lab ID: 5022427-15
Sample Volume: 2125.166 m³
Filter ID:
Sampled: 02/16/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 07:33

Comments: Q9524278 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0268**
Arsenic	**7440-38-2**	**0.153**		**0.00681**
Barium	**7440-39-3**	**3.20**		**1.18**
Beryllium	**7440-41-7**	**0.00610**		**0.00145**
Cadmium	**7440-43-9**	**0.0237**		**0.00392**
Chromium	7440-47-3	1.22	U	1.87
Cobalt	**7440-48-4**	**0.165**		**0.0398**
Copper	**7440-50-8**	**31.8**		**0.576**
Lead	**7439-92-1**	**0.480**		**0.103**
Manganese	**7439-96-5**	**6.44**		**0.426**
Molybdenum	**7439-98-7**	**1.73**		**0.302**
Nickel	**7440-02-0**	**0.738**		**0.566**
Selenium	**7782-49-2**	**0.231**		**0.00773**
Thallium	**7440-28-0**	**0.00225**		**6.59E-4**
Vanadium	**7440-62-2**	**0.905**		**0.0351**
Zinc	7440-66-6	17.1	U	87.3

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021625-HM
Matrix: Air
Lab ID: 5022427-16
Sample Volume: 2119.363 m³
Filter ID:
Sampled: 02/16/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 07:46

Comments: Q9524275 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.262**	SL	**0.0269**
Arsenic	**7440-38-2**	**0.163**		**0.00682**
Barium	**7440-39-3**	**4.59**		**1.18**
Beryllium	**7440-41-7**	**0.00661**		**0.00146**
Cadmium	**7440-43-9**	**0.0579**		**0.00393**
Chromium	**7440-47-3**	**2.01**		**1.87**
Cobalt	**7440-48-4**	**0.183**		**0.0399**
Copper	**7440-50-8**	**73.3**		**0.577**
Lead	**7439-92-1**	**0.564**		**0.103**
Manganese	**7439-96-5**	**6.80**		**0.428**
Molybdenum	**7439-98-7**	**3.55**		**0.302**
Nickel	**7440-02-0**	**1.29**		**0.567**
Selenium	**7782-49-2**	**0.248**		**0.00775**
Thallium	**7440-28-0**	**0.00230**		**6.61E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0352**
Zinc	7440-66-6	15.4	U	87.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021625-HM
Matrix: Air
Lab ID: 5022427-17
Sample Volume: 2066.234 m³
Filter ID:
Sampled: 02/16/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 08:01

Comments: Q9524273 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.298**		**0.00700**
Barium	**7440-39-3**	**2.69**		**1.21**
Beryllium	**7440-41-7**	**0.00408**		**0.00150**
Cadmium	**7440-43-9**	**0.0159**		**0.00403**
Chromium	7440-47-3	1.31	U	1.92
Cobalt	**7440-48-4**	**0.123**		**0.0409**
Copper	**7440-50-8**	**45.3**		**0.592**
Lead	**7439-92-1**	**0.412**		**0.106**
Manganese	**7439-96-5**	**4.43**		**0.439**
Molybdenum	**7439-98-7**	**1.91**		**0.310**
Nickel	**7440-02-0**	**0.776**		**0.582**
Selenium	**7782-49-2**	**0.230**		**0.00795**
Thallium	**7440-28-0**	**0.00296**		**6.78E-4**
Vanadium	**7440-62-2**	**0.736**		**0.0361**
Zinc	7440-66-6	13.1	U	89.8

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021625-HM
Matrix: Air
Lab ID: 5022427-18
Sample Volume: 1993.864 m³
Filter ID:
Sampled: 02/16/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 08:15

Comments: Q9524271 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.123**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.141**		**0.00725**
Barium	**7440-39-3**	**2.25**		**1.26**
Beryllium	**7440-41-7**	**0.00353**		**0.00155**
Cadmium	**7440-43-9**	**0.0156**		**0.00418**
Chromium	7440-47-3	1.03	U	1.99
Cobalt	**7440-48-4**	**0.103**		**0.0424**
Copper	**7440-50-8**	**51.9**		**0.614**
Lead	**7439-92-1**	**0.263**		**0.109**
Manganese	**7439-96-5**	**4.29**		**0.455**
Molybdenum	**7439-98-7**	**2.09**		**0.322**
Nickel	7440-02-0	0.596	U	0.603
Selenium	**7782-49-2**	**0.217**		**0.00824**
Thallium	**7440-28-0**	**0.00197**		**7.03E-4**
Vanadium	**7440-62-2**	**0.691**		**0.0374**
Zinc	7440-66-6	9.81	U	93.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021725-HM
Matrix: Air
Lab ID: 5022427-19
Sample Volume: 1972.533 m³
Filter ID:
Sampled: 02/17/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 00:34

Comments: Q9524270 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.133**		**0.00733**
Barium	**7440-39-3**	**2.72**		**1.27**
Beryllium	**7440-41-7**	**0.00500**		**0.00157**
Cadmium	**7440-43-9**	**0.0221**		**0.00422**
Chromium	7440-47-3	1.20	U	2.01
Cobalt	**7440-48-4**	**0.143**		**0.0429**
Copper	**7440-50-8**	**36.0**		**0.620**
Lead	**7439-92-1**	**0.348**		**0.111**
Manganese	**7439-96-5**	**5.02**		**0.459**
Molybdenum	**7439-98-7**	**1.39**		**0.325**
Nickel	**7440-02-0**	**0.705**		**0.610**
Selenium	**7782-49-2**	**0.160**		**0.00833**
Thallium	**7440-28-0**	**0.00191**		**7.10E-4**
Vanadium	**7440-62-2**	**0.742**		**0.0378**
Zinc	7440-66-6	22.4	U	94.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021725-HM
Matrix: Air
Lab ID: 5022427-20
Sample Volume: 2218.817 m³
Filter ID:
Sampled: 02/17/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 08:28

Comments: Q9524263 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.169**	SL	**0.0257**
Arsenic	**7440-38-2**	**0.102**		**0.00652**
Barium	**7440-39-3**	**2.90**		**1.13**
Beryllium	**7440-41-7**	**0.00425**		**0.00139**
Cadmium	**7440-43-9**	**0.0133**		**0.00375**
Chromium	7440-47-3	1.63	U	1.79
Cobalt	**7440-48-4**	**0.117**		**0.0381**
Copper	**7440-50-8**	**72.9**		**0.551**
Lead	**7439-92-1**	**0.347**		**0.0983**
Manganese	**7439-96-5**	**4.44**		**0.408**
Molybdenum	**7439-98-7**	**2.55**		**0.289**
Nickel	**7440-02-0**	**0.617**		**0.542**
Selenium	**7782-49-2**	**0.162**		**0.00741**
Thallium	**7440-28-0**	**0.00169**		**6.31E-4**
Vanadium	**7440-62-2**	**0.703**		**0.0336**
Zinc	7440-66-6	12.6	U	83.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021725-HM
Matrix: Air
Lab ID: 5022427-21
Sample Volume: 1645.704 m³
Filter ID:
Sampled: 02/17/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 08:42

Comments: Q9524262 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.283**		**0.00879**
Barium	**7440-39-3**	**2.87**		**1.52**
Beryllium	**7440-41-7**	**0.00379**		**0.00188**
Cadmium	**7440-43-9**	**0.0235**		**0.00506**
Chromium	7440-47-3	1.84	U	2.41
Cobalt	**7440-48-4**	**0.126**		**0.0514**
Copper	**7440-50-8**	**53.1**		**0.743**
Lead	**7439-92-1**	**0.753**		**0.132**
Manganese	**7439-96-5**	**4.14**		**0.551**
Molybdenum	**7439-98-7**	**1.82**		**0.390**
Nickel	**7440-02-0**	**1.03**		**0.731**
Selenium	**7782-49-2**	**0.228**		**0.00999**
Thallium	**7440-28-0**	**0.00229**		**8.51E-4**
Vanadium	**7440-62-2**	**0.761**		**0.0453**
Zinc	7440-66-6	23.4	U	113

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021725-HM
Matrix: Air
Lab ID: 5022427-22
Sample Volume: 2052.845 m³
Filter ID:
Sampled: 02/17/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 10:11

Comments: Q9524261 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.132**		**0.00705**
Barium	**7440-39-3**	**2.13**		**1.22**
Beryllium	**7440-41-7**	**0.00327**		**0.00151**
Cadmium	**7440-43-9**	**0.0127**		**0.00406**
Chromium	7440-47-3	1.32	U	1.93
Cobalt	**7440-48-4**	**0.0925**		**0.0412**
Copper	**7440-50-8**	**46.7**		**0.596**
Lead	**7439-92-1**	**0.262**		**0.106**
Manganese	**7439-96-5**	**3.39**		**0.441**
Molybdenum	**7439-98-7**	**2.15**		**0.312**
Nickel	7440-02-0	0.585	U	0.586
Selenium	**7782-49-2**	**0.200**		**0.00800**
Thallium	**7440-28-0**	**0.00229**		**6.82E-4**
Vanadium	**7440-62-2**	**0.664**		**0.0363**
Zinc	7440-66-6	11.0	U	90.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021725-HM
Matrix: Air
Lab ID: 5022427-23
Sample Volume: 1972.533 m³
Filter ID:
Sampled: 02/17/25 00:00
Received: 02/24/25 11:05
Analysis Date: 02/26/25 10:25

Comments: Q9524256 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0186	SL, U	0.0289
Arsenic	7440-38-2	0.00388	U	0.00733
Barium	7440-39-3	0.549	U	1.27
Beryllium	7440-41-7	ND	U	0.00157
Cadmium	7440-43-9	5.65E-4	U	0.00422
Chromium	7440-47-3	0.648	U	2.01
Cobalt	7440-48-4	0.00583	U	0.0429
Copper	7440-50-8	0.307	U	0.620
Lead	7439-92-1	0.0317	U	0.111
Manganese	7439-96-5	0.108	U	0.459
Molybdenum	7439-98-7	0.0838	U	0.325
Nickel	7440-02-0	0.184	U	0.610
Selenium	7782-49-2	0.00432	U	0.00833
Thallium	7440-28-0	1.49E-4	U	7.10E-4
Vanadium	7440-62-2	ND	U	0.0378
Zinc	7440-66-6	5.19	U	94.0

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021825-HM
Matrix: Air
Lab ID: 5022427-24
Sample Volume: 2063.056 m³
Filter ID:
Sampled: 02/18/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 10:38

Comments: Q9524260 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.183**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.154**		**0.00701**
Barium	**7440-39-3**	**4.19**		**1.21**
Beryllium	**7440-41-7**	**0.00461**		**0.00150**
Cadmium	**7440-43-9**	**0.0601**		**0.00404**
Chromium	7440-47-3	1.27	U	1.92
Cobalt	**7440-48-4**	**0.169**		**0.0410**
Copper	**7440-50-8**	**33.4**		**0.593**
Lead	**7439-92-1**	**0.404**		**0.106**
Manganese	**7439-96-5**	**5.75**		**0.439**
Molybdenum	**7439-98-7**	**1.64**		**0.311**
Nickel	**7440-02-0**	**0.956**		**0.583**
Selenium	**7782-49-2**	**0.275**		**0.00797**
Thallium	**7440-28-0**	**0.00457**		**6.79E-4**
Vanadium	**7440-62-2**	**0.888**		**0.0361**
Zinc	7440-66-6	29.0	U	89.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021825-HM
Matrix: Air
Lab ID: 5022427-25
Sample Volume: 2154.193 m³
Filter ID:
Sampled: 02/18/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 10:52

Comments: Q9524258 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.202**	SL	**0.0264**
Arsenic	**7440-38-2**	**0.196**		**0.00671**
Barium	**7440-39-3**	**4.00**		**1.16**
Beryllium	**7440-41-7**	**0.00486**		**0.00144**
Cadmium	**7440-43-9**	**0.0316**		**0.00387**
Chromium	7440-47-3	1.15	U	1.84
Cobalt	**7440-48-4**	**0.162**		**0.0393**
Copper	**7440-50-8**	**92.1**		**0.568**
Lead	**7439-92-1**	**0.356**		**0.101**
Manganese	**7439-96-5**	**5.33**		**0.421**
Molybdenum	**7439-98-7**	**3.86**		**0.298**
Nickel	**7440-02-0**	**0.849**		**0.558**
Selenium	**7782-49-2**	**0.285**		**0.00763**
Thallium	**7440-28-0**	**0.00437**		**6.50E-4**
Vanadium	**7440-62-2**	**0.928**		**0.0346**
Zinc	7440-66-6	15.5	U	86.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021825-HM
Matrix: Air
Lab ID: 5022427-26
Sample Volume: 1947.936 m³
Filter ID:
Sampled: 02/18/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 11:07

Comments: Q9524257 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.437**		**0.00743**
Barium	**7440-39-3**	**3.92**		**1.29**
Beryllium	**7440-41-7**	**0.00665**		**0.00159**
Cadmium	**7440-43-9**	**0.0328**		**0.00428**
Chromium	7440-47-3	1.68	U	2.04
Cobalt	**7440-48-4**	**0.219**		**0.0434**
Copper	**7440-50-8**	**65.0**		**0.628**
Lead	**7439-92-1**	**0.773**		**0.112**
Manganese	**7439-96-5**	**7.50**		**0.465**
Molybdenum	**7439-98-7**	**2.26**		**0.329**
Nickel	**7440-02-0**	**0.991**		**0.617**
Selenium	**7782-49-2**	**0.288**		**0.00844**
Thallium	**7440-28-0**	**0.00435**		**7.19E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0383**
Zinc	7440-66-6	17.2	U	95.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021825-HM
Matrix: Air
Lab ID: 5022427-27
Sample Volume: 2093.546 m³
Filter ID:
Sampled: 02/18/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 11:22

Comments: Q9524255 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0272**
Arsenic	**7440-38-2**	**0.232**		**0.00691**
Barium	**7440-39-3**	**2.08**		**1.20**
Beryllium	**7440-41-7**	**0.00277**		**0.00148**
Cadmium	**7440-43-9**	**0.0753**		**0.00398**
Chromium	7440-47-3	0.984	U	1.90
Cobalt	**7440-48-4**	**0.0865**		**0.0404**
Copper	**7440-50-8**	**48.8**		**0.584**
Lead	**7439-92-1**	**0.397**		**0.104**
Manganese	**7439-96-5**	**3.07**		**0.433**
Molybdenum	**7439-98-7**	**1.93**		**0.306**
Nickel	**7440-02-0**	**0.669**		**0.574**
Selenium	**7782-49-2**	**0.265**		**0.00785**
Thallium	**7440-28-0**	**0.00363**		**6.69E-4**
Vanadium	**7440-62-2**	**0.697**		**0.0356**
Zinc	7440-66-6	12.3	U	88.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-021925-HM
Matrix: Air
Lab ID: 5022427-28
Sample Volume: 2036.544 m³
Filter ID:
Sampled: 02/19/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 11:36

Comments: Q9524254 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.186**		**0.00710**
Barium	**7440-39-3**	**4.17**		**1.23**
Beryllium	**7440-41-7**	**0.00951**		**0.00152**
Cadmium	**7440-43-9**	**0.113**		**0.00409**
Chromium	7440-47-3	1.65	U	1.95
Cobalt	**7440-48-4**	**0.307**		**0.0415**
Copper	**7440-50-8**	**33.2**		**0.601**
Lead	**7439-92-1**	**0.330**		**0.107**
Manganese	**7439-96-5**	**10.8**		**0.445**
Molybdenum	**7439-98-7**	**1.65**		**0.315**
Nickel	**7440-02-0**	**0.950**		**0.590**
Selenium	**7782-49-2**	**0.217**		**0.00807**
Thallium	**7440-28-0**	**0.00122**		**6.88E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0366**
Zinc	7440-66-6	13.4	U	91.1

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021925-HM
Matrix: Air
Lab ID: 5022427-29
Sample Volume: 2170.408 m³
Filter ID:
Sampled: 02/19/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 11:50

Comments: Q9524252 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.271**	SL	**0.0262**
Arsenic	**7440-38-2**	**0.156**		**0.00666**
Barium	**7440-39-3**	**5.05**		**1.15**
Beryllium	**7440-41-7**	**0.00737**		**0.00142**
Cadmium	**7440-43-9**	**0.0158**		**0.00384**
Chromium	7440-47-3	1.33	U	1.83
Cobalt	**7440-48-4**	**0.239**		**0.0390**
Copper	**7440-50-8**	**77.5**		**0.564**
Lead	**7439-92-1**	**0.424**		**0.100**
Manganese	**7439-96-5**	**7.55**		**0.418**
Molybdenum	**7439-98-7**	**3.86**		**0.295**
Nickel	**7440-02-0**	**0.901**		**0.554**
Selenium	**7782-49-2**	**0.204**		**0.00757**
Thallium	**7440-28-0**	**0.00110**		**6.45E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0343**
Zinc	7440-66-6	29.0	U	85.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM09-021925-HM
Matrix: Air
Lab ID: 5022427-30
Sample Volume: 2027.185 m³
Filter ID:
Sampled: 02/19/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 12:04

Comments: Q9524250 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0897**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.148**		**0.00714**
Barium	**7440-39-3**	**3.32**		**1.24**
Beryllium	**7440-41-7**	**0.00426**		**0.00152**
Cadmium	**7440-43-9**	**0.0529**		**0.00411**
Chromium	7440-47-3	1.29	U	1.96
Cobalt	**7440-48-4**	**0.133**		**0.0417**
Copper	**7440-50-8**	**36.2**		**0.604**
Lead	**7439-92-1**	**0.357**		**0.108**
Manganese	**7439-96-5**	**4.61**		**0.447**
Molybdenum	**7439-98-7**	**1.38**		**0.316**
Nickel	**7440-02-0**	**0.812**		**0.593**
Selenium	**7782-49-2**	**0.190**		**0.00811**
Thallium	**7440-28-0**	**8.33E-4**		**6.91E-4**
Vanadium	**7440-62-2**	**0.788**		**0.0368**
Zinc	7440-66-6	8.41	U	91.5

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REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM08-021925-HM
Matrix: Air
Lab ID: 5022427-31
Sample Volume: 2169.144 m³
Filter ID:
Sampled: 02/19/25 23:59
Received: 02/24/25 11:05
Analysis Date: 02/26/25 13:43

Comments: Q9524248 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.131**	SL	**0.0263**
Arsenic	**7440-38-2**	**0.140**		**0.00667**
Barium	**7440-39-3**	**2.21**		**1.16**
Beryllium	**7440-41-7**	**0.00378**		**0.00143**
Cadmium	**7440-43-9**	**0.00877**		**0.00384**
Chromium	7440-47-3	1.71	U	1.83
Cobalt	**7440-48-4**	**0.119**		**0.0390**
Copper	**7440-50-8**	**61.3**		**0.564**
Lead	**7439-92-1**	**0.206**		**0.101**
Manganese	**7439-96-5**	**4.07**		**0.418**
Molybdenum	**7439-98-7**	**2.12**		**0.296**
Nickel	**7440-02-0**	**0.978**		**0.554**
Selenium	**7782-49-2**	**0.165**		**0.00758**
Thallium	**7440-28-0**	**8.35E-4**		**6.46E-4**
Vanadium	**7440-62-2**	**0.798**		**0.0344**
Zinc	7440-66-6	7.79	U	85.5

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021925-HM
Matrix: Air
Lab ID: 5022427-32
Sample Volume: 2036.544 m³
Filter ID:
Sampled: 02/19/25 00:00
Received: 02/24/25 11:05
Analysis Date: 02/26/25 13:59

Comments: Q9524246 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0144	SL, U	0.0280
Arsenic	**7440-38-2**	**0.00901**	FB-01	**0.00710**
Barium	7440-39-3	0.624	U	1.23
Beryllium	7440-41-7	1.16E-4	U	0.00152
Cadmium	7440-43-9	0.00215	U	0.00409
Chromium	7440-47-3	0.772	U	1.95
Cobalt	7440-48-4	0.00873	U	0.0415
Copper	7440-50-8	0.328	U	0.601
Lead	7439-92-1	0.0366	U	0.107
Manganese	7439-96-5	0.246	U	0.445
Molybdenum	7439-98-7	0.0878	U	0.315
Nickel	7440-02-0	0.198	U	0.590
Selenium	7782-49-2	0.00241	U	0.00807
Thallium	7440-28-0	1.54E-4	U	6.88E-4
Vanadium	7440-62-2	0.00977	U	0.0366
Zinc	7440-66-6	3.58	U	91.1

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Blank (2502053-CCB1)				Prepared & Analyzed: 02/25/25						
Antimony	0.961		ng/l							
Arsenic	8.17		ng/l							
Barium	4.74		ng/l							
Beryllium	-0.406		ng/l							U
Cadmium	0.358		ng/l							
Chromium	5.95		ng/l							
Cobalt	1.18		ng/l							
Copper	50.5		ng/l							
Lead	7.45		ng/l							
Manganese	14.3		ng/l							
Molybdenum	22.0		ng/l							
Nickel	2.00		ng/l							
Selenium	6.47		ng/l							
Thallium	0.994		ng/l							
Vanadium	-17.1		ng/l							U
Zinc	-73.1		ng/l							U
Calibration Blank (2502053-CCB2)				Prepared & Analyzed: 02/25/25						
Antimony	0.0781		ng/l							
Arsenic	5.94		ng/l							
Barium	0.355		ng/l							
Beryllium	-0.768		ng/l							U
Cadmium	-0.0502		ng/l							U
Chromium	3.85		ng/l							
Cobalt	0.235		ng/l							
Copper	21.2		ng/l							
Lead	2.90		ng/l							
Manganese	4.81		ng/l							
Molybdenum	4.03		ng/l							
Nickel	0.00128		ng/l							
Selenium	6.65		ng/l							
Thallium	0.722		ng/l							
Vanadium	-25.3		ng/l							U
Zinc	-105		ng/l							U
Calibration Blank (2502053-CCB3)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.724		ng/l							
Arsenic	3.79		ng/l							
Barium	0.626		ng/l							
Beryllium	-1.10		ng/l							U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Blank (2502053-CCB3) Contin				Prepared: 02/25/25 Analyzed: 02/26/25						
Cadmium	0.107		ng/l							
Chromium	4.16		ng/l							
Cobalt	0.129		ng/l							
Copper	24.3		ng/l							
Lead	2.82		ng/l							
Manganese	5.18		ng/l							
Molybdenum	2.83		ng/l							
Nickel	-0.822		ng/l							U
Selenium	7.31		ng/l							
Thallium	0.879		ng/l							
Vanadium	-39.9		ng/l							U
Zinc	-89.0		ng/l							U
Calibration Blank (2502053-CCB4)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.533		ng/l							
Arsenic	7.68		ng/l							
Barium	6.56		ng/l							
Beryllium	-1.45		ng/l							U
Cadmium	0.361		ng/l							
Chromium	8.14		ng/l							
Cobalt	0.648		ng/l							
Copper	37.5		ng/l							
Lead	4.43		ng/l							
Manganese	10.2		ng/l							
Molybdenum	4.41		ng/l							
Nickel	3.66		ng/l							
Selenium	9.75		ng/l							
Thallium	0.769		ng/l							
Vanadium	-39.9		ng/l							U
Zinc	-76.3		ng/l							U
Calibration Blank (2502053-CCB5)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.688		ng/l							
Arsenic	5.17		ng/l							
Barium	2.31		ng/l							
Beryllium	-1.67		ng/l							U
Cadmium	0.266		ng/l							
Chromium	8.32		ng/l							
Cobalt	0.512		ng/l							
Copper	35.2		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Blank (2502053-CCB5) Contin				Prepared: 02/25/25 Analyzed: 02/26/25						
Lead	4.26		ng/l							
Manganese	9.46		ng/l							
Molybdenum	6.17		ng/l							
Nickel	1.75		ng/l							
Selenium	-3.74		ng/l							U
Thallium	1.09		ng/l							
Vanadium	-56.1		ng/l							U
Zinc	-82.0		ng/l							U
Calibration Blank (2502053-CCB6)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.860		ng/l							
Arsenic	7.73		ng/l							
Barium	3.01		ng/l							
Beryllium	-1.61		ng/l							U
Cadmium	0.171		ng/l							
Chromium	6.98		ng/l							
Cobalt	0.457		ng/l							
Copper	35.4		ng/l							
Lead	4.07		ng/l							
Manganese	7.57		ng/l							
Molybdenum	5.09		ng/l							
Nickel	1.63		ng/l							
Selenium	11.1		ng/l							
Thallium	1.08		ng/l							
Vanadium	-62.1		ng/l							U
Zinc	-63.3		ng/l							U
Calibration Blank (2502053-CCB7)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	1.56		ng/l							
Arsenic	3.61		ng/l							
Barium	8.75		ng/l							
Beryllium	-0.892		ng/l							U
Cadmium	0.708		ng/l							
Chromium	16.8		ng/l							
Cobalt	2.09		ng/l							
Copper	105		ng/l							
Lead	9.89		ng/l							
Manganese	25.3		ng/l							
Molybdenum	8.13		ng/l							
Nickel	4.00		ng/l							

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Blank (2502053-CCB7) Contin				Prepared: 02/25/25 Analyzed: 02/26/25						
Selenium	-0.541		ng/l							U
Thallium	1.02		ng/l							
Vanadium	-60.3		ng/l							U
Zinc	-87.8		ng/l							U
Calibration Check (2502053-CCV1)				Prepared & Analyzed: 02/25/25						
Antimony	20000		ng/l	20008		99.9	90-110			
Arsenic	20000		ng/l	20004		99.8	90-110			
Barium	201000		ng/l	200200		101	90-110			
Beryllium	5080		ng/l	5002.5		102	90-110			
Cadmium	20000		ng/l	20014		99.9	90-110			
Chromium	235000		ng/l	240050		98.0	90-110			
Cobalt	50400		ng/l	50020		101	90-110			
Copper	2.03E6		ng/l	2.0020E6		101	90-110			
Lead	200000		ng/l	200060		99.7	90-110			
Manganese	501000		ng/l	498900		100	90-110			
Molybdenum	49700		ng/l	50005		99.3	90-110			
Nickel	122000		ng/l	120040		101	90-110			
Selenium	20000		ng/l	20002		100	90-110			
Thallium	495		ng/l	499.95		98.9	90-110			
Vanadium	19700		ng/l	20030		98.3	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Calibration Check (2502053-CCV2)				Prepared & Analyzed: 02/25/25						
Antimony	20200		ng/l	20008		101	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	199000		ng/l	200200		99.3	90-110			
Beryllium	5140		ng/l	5002.5		103	90-110			
Cadmium	20300		ng/l	20014		101	90-110			
Chromium	240000		ng/l	240050		100	90-110			
Cobalt	50300		ng/l	50020		101	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	503000		ng/l	498900		101	90-110			
Molybdenum	50000		ng/l	50005		100	90-110			
Nickel	122000		ng/l	120040		101	90-110			
Selenium	19800		ng/l	20002		99.2	90-110			
Thallium	489		ng/l	499.95		97.8	90-110			
Vanadium	20000		ng/l	20030		99.8	90-110			
Zinc	540000		ng/l	500000		108	90-110			

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REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Check (2502053-CCV3)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	20400		ng/l	20008		102	90-110			
Arsenic	20300		ng/l	20004		102	90-110			
Barium	200000		ng/l	200200		100	90-110			
Beryllium	5010		ng/l	5002.5		100	90-110			
Cadmium	20600		ng/l	20014		103	90-110			
Chromium	240000		ng/l	240050		99.9	90-110			
Cobalt	50100		ng/l	50020		100	90-110			
Copper	2.04E6		ng/l	2.0020E6		102	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	500000		ng/l	498900		100	90-110			
Molybdenum	50700		ng/l	50005		101	90-110			
Nickel	122000		ng/l	120040		101	90-110			
Selenium	20300		ng/l	20002		101	90-110			
Thallium	490		ng/l	499.95		97.9	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	544000		ng/l	500000		109	90-110			
Calibration Check (2502053-CCV4)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	20500		ng/l	20008		103	90-110			
Arsenic	20500		ng/l	20004		103	90-110			
Barium	203000		ng/l	200200		101	90-110			
Beryllium	5210		ng/l	5002.5		104	90-110			
Cadmium	20700		ng/l	20014		103	90-110			
Chromium	244000		ng/l	240050		102	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.08E6		ng/l	2.0020E6		104	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	511000		ng/l	498900		102	90-110			
Molybdenum	51600		ng/l	50005		103	90-110			
Nickel	123000		ng/l	120040		103	90-110			
Selenium	20000		ng/l	20002		100	90-110			
Thallium	491		ng/l	499.95		98.1	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	549000		ng/l	500000		110	90-110			
Calibration Check (2502053-CCV5)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20500		ng/l	20004		103	90-110			
Barium	211000		ng/l	200200		105	90-110			
Beryllium	5200		ng/l	5002.5		104	90-110			

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Check (2502053-CCV5) Contin				Prepared: 02/25/25 Analyzed: 02/26/25						
Cadmium	20900		ng/l	20014		105	90-110			
Chromium	247000		ng/l	240050		103	90-110			
Cobalt	51100		ng/l	50020		102	90-110			
Copper	2.09E6		ng/l	2.0020E6		105	90-110			
Lead	203000		ng/l	200060		102	90-110			
Manganese	513000		ng/l	498900		103	90-110			
Molybdenum	53100		ng/l	50005		106	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	20100		ng/l	20002		101	90-110			
Thallium	487		ng/l	499.95		97.3	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	552000		ng/l	500000		110	90-110			
Calibration Check (2502053-CCV6)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	20600		ng/l	20008		103	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	213000		ng/l	200200		107	90-110			
Beryllium	4770		ng/l	5002.5		95.3	90-110			
Cadmium	20900		ng/l	20014		104	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	50900		ng/l	50020		102	90-110			
Copper	2.09E6		ng/l	2.0020E6		105	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	504000		ng/l	498900		101	90-110			
Molybdenum	53500		ng/l	50005		107	90-110			
Nickel	124000		ng/l	120040		103	90-110			
Selenium	20000		ng/l	20002		100	90-110			
Thallium	490		ng/l	499.95		98.0	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	548000		ng/l	500000		110	90-110			
Calibration Check (2502053-CCV7)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	20700		ng/l	20008		104	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	208000		ng/l	200200		104	90-110			
Beryllium	5080		ng/l	5002.5		102	90-110			
Cadmium	20900		ng/l	20014		105	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	51000		ng/l	50020		102	90-110			
Copper	2.08E6		ng/l	2.0020E6		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Calibration Check (2502053-CCV7) Contin				Prepared: 02/25/25 Analyzed: 02/26/25						
Lead	204000		ng/l	200060		102	90-110			
Manganese	507000		ng/l	498900		102	90-110			
Molybdenum	52700		ng/l	50005		105	90-110			
Nickel	124000		ng/l	120040		103	90-110			
Selenium	19900		ng/l	20002		99.5	90-110			
Thallium	493		ng/l	499.95		98.5	90-110			
Vanadium	20600		ng/l	20030		103	90-110			
Zinc	546000		ng/l	500000		109	90-110			
High Cal Check (2502053-HCV1)				Prepared & Analyzed: 02/25/25						
Antimony	39900		ng/l	40016		99.8	95-105			
Arsenic	40000		ng/l	40008		99.9	95-105			
Barium	399000		ng/l	400400		99.5	95-105			
Beryllium	9990		ng/l	10005		99.8	95-105			
Cadmium	39900		ng/l	40028		99.8	95-105			
Chromium	473000		ng/l	480100		98.5	95-105			
Cobalt	99600		ng/l	100040		99.5	95-105			
Copper	3.96E6		ng/l	4.0040E6		98.8	95-105			
Lead	401000		ng/l	400120		100	95-105			
Manganese	991000		ng/l	997800		99.3	95-105			
Molybdenum	99800		ng/l	100010		99.8	95-105			
Nickel	238000		ng/l	240070		99.2	95-105			
Selenium	39800		ng/l	40004		99.4	95-105			
Thallium	1000		ng/l	999.90		100	95-105			
Vanadium	39600		ng/l	40060		98.8	95-105			
Zinc	980000		ng/l	1.0000E6		98.0	95-105			
Initial Cal Blank (2502053-ICB1)				Prepared & Analyzed: 02/25/25						
Antimony	1.33		ng/l							
Arsenic	2.77		ng/l							
Barium	5.42		ng/l							
Beryllium	0.160		ng/l							
Cadmium	0.851		ng/l							
Chromium	12.4		ng/l							
Cobalt	1.81		ng/l							
Copper	109		ng/l							
Lead	14.1		ng/l							
Manganese	22.6		ng/l							
Molybdenum	17.5		ng/l							
Nickel	0.0762		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Initial Cal Blank (2502053-ICB1) Continu				Prepared & Analyzed: 02/25/25						
Selenium	-3.80		ng/l							U
Thallium	1.44		ng/l							
Vanadium	-37.0		ng/l							U
Zinc	-32.3		ng/l							U
Initial Cal Check (2502053-ICV1)				Prepared & Analyzed: 02/25/25						
Antimony	19100		ng/l	20000		95.5	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	191000		ng/l	200000		95.7	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		99.2	90-110			
Chromium	231000		ng/l	240000		96.2	90-110			
Cobalt	48300		ng/l	50000		96.7	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.5	90-110			
Lead	194000		ng/l	200000		96.8	90-110			
Manganese	478000		ng/l	500000		95.5	90-110			
Molybdenum	47400		ng/l	50000		94.9	90-110			
Nickel	117000		ng/l	120000		97.6	90-110			
Selenium	19800		ng/l	20000		98.8	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Interference Check A (2502053-IFA1)				Prepared & Analyzed: 02/25/25						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	296000		ng/l	300000		98.6	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2502053 - B5B2506										
Interference Check B (2502053-IFB1)				Prepared & Analyzed: 02/25/25						
Antimony	20200		ng/l	20008		101	80-120			
Arsenic	20100		ng/l	20004		100	80-120			
Barium	200000		ng/l	200200		99.9	80-120			
Beryllium	4960		ng/l	5002.5		99.2	80-120			
Cadmium	19700		ng/l	20014		98.4	80-120			
Chromium	228000		ng/l	240050		94.9	80-120			
Cobalt	48900		ng/l	50020		97.8	80-120			
Copper	1.88E6		ng/l	2.0020E6		94.2	80-120			
Lead	203000		ng/l	200060		102	80-120			
Manganese	499000		ng/l	498900		100	80-120			
Molybdenum	350000		ng/l	350000		100	80-120			
Nickel	115000		ng/l	120040		95.6	80-120			
Selenium	18700		ng/l	20002		93.3	80-120			
Thallium	514		ng/l	499.95		103	80-120			
Vanadium	19100		ng/l	20030		95.4	80-120			
Zinc	488000		ng/l	500000		97.6	80-120			
Batch B5B2506 - ICP-MS Extraction										
Blank (B5B2506-BLK1)				Prepared & Analyzed: 02/25/25						
Antimony	ND	0.0350	ng/m³ Air							SL, U
Arsenic	ND	0.00889	ng/m³ Air							U
Barium	ND	1.54	ng/m³ Air							U
Beryllium	ND	0.00190	ng/m³ Air							U
Cadmium	ND	0.00512	ng/m³ Air							U
Chromium	ND	2.44	ng/m³ Air							U
Cobalt	ND	0.0520	ng/m³ Air							U
Copper	ND	0.752	ng/m³ Air							U
Lead	ND	0.134	ng/m³ Air							U
Manganese	ND	0.557	ng/m³ Air							U
Molybdenum	ND	0.394	ng/m³ Air							U
Nickel	ND	0.739	ng/m³ Air							U
Selenium	ND	0.0101	ng/m³ Air							U
Thallium	ND	8.61E-4	ng/m³ Air							U
Vanadium	ND	0.0458	ng/m³ Air							U
Zinc	ND	114	ng/m³ Air							U
LCS (B5B2506-BS1)				Prepared & Analyzed: 02/25/25						
Antimony	0.935	0.0350	ng/m³ Air	1.3835		67.6	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.7	80-120			
Barium	28.0	1.54	ng/m³ Air	27.686		101	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
LCS (B5B2506-BS1) Continued					Prepared & Analyzed: 02/25/25					
Beryllium	1.36	0.00190	ng/m³ Air	1.3836		98.0	80-120			
Cadmium	1.41	0.00512	ng/m³ Air	1.3839		102	80-120			
Chromium	15.4	2.44	ng/m³ Air	13.832		111	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.6	80-120			
Copper	30.1	0.752	ng/m³ Air	27.686		109	80-120			
Lead	13.9	0.134	ng/m³ Air	13.833		101	80-120			
Manganese	8.86	0.557	ng/m³ Air	8.2792		107	80-120			
Molybdenum	1.42	0.394	ng/m³ Air	1.3831		103	80-120			
Nickel	2.96	0.739	ng/m³ Air	2.7667		107	80-120			
Selenium	2.75	0.0101	ng/m³ Air	2.7661		99.6	80-120			
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		96.7	80-120			
Vanadium	2.74	0.0458	ng/m³ Air	2.7700		99.1	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2506-BS2)					Prepared & Analyzed: 02/25/25					
Antimony	0.975	0.0350	ng/m³ Air	1.3835		70.5	80-120			SL
Arsenic	2.76	0.00889	ng/m³ Air	2.7664		99.8	80-120			
Barium	28.4	1.54	ng/m³ Air	27.686		103	80-120			
Beryllium	1.36	0.00190	ng/m³ Air	1.3836		98.5	80-120			
Cadmium	1.42	0.00512	ng/m³ Air	1.3839		103	80-120			
Chromium	15.6	2.44	ng/m³ Air	13.832		113	80-120			
Cobalt	1.37	0.0520	ng/m³ Air	1.3835		99.1	80-120			
Copper	30.4	0.752	ng/m³ Air	27.686		110	80-120			
Lead	14.2	0.134	ng/m³ Air	13.833		102	80-120			
Manganese	8.98	0.557	ng/m³ Air	8.2792		108	80-120			
Molybdenum	1.46	0.394	ng/m³ Air	1.3831		105	80-120			
Nickel	2.99	0.739	ng/m³ Air	2.7667		108	80-120			
Selenium	2.73	0.0101	ng/m³ Air	2.7661		98.8	80-120			
Thallium	0.138	8.61E-4	ng/m³ Air	0.13828		99.5	80-120			
Vanadium	2.79	0.0458	ng/m³ Air	2.7700		101	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2506-BS3)					Prepared & Analyzed: 02/25/25					
Antimony	1.37	0.0350	ng/m³ Air	1.3835		98.9	80-120			SL
Arsenic	2.72	0.00889	ng/m³ Air	2.7664		98.4	80-120			
Barium	27.3	1.54	ng/m³ Air	27.686		98.5	80-120			
Beryllium	1.34	0.00190	ng/m³ Air	1.3836		97.0	80-120			
Cadmium	1.39	0.00512	ng/m³ Air	1.3839		100	80-120			
Chromium	14.7	2.44	ng/m³ Air	13.832		107	80-120			
Cobalt	1.36	0.0520	ng/m³ Air	1.3835		98.2	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
LCS (B5B2506-BS3) Continued				Prepared & Analyzed: 02/25/25						
Copper	29.5	0.752	ng/m³ Air	27.686		106	80-120			
Lead	13.8	0.134	ng/m³ Air	13.833		99.5	80-120			
Manganese	8.84	0.557	ng/m³ Air	8.2792		107	80-120			
Molybdenum	1.33	0.394	ng/m³ Air	1.3831		95.9	80-120			
Nickel	2.80	0.739	ng/m³ Air	2.7667		101	80-120			
Selenium	2.73	0.0101	ng/m³ Air	2.7661		98.9	80-120			
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		96.9	80-120			
Vanadium	2.74	0.0458	ng/m³ Air	2.7700		98.9	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
LCS (B5B2506-BS4)				Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	1.37	0.0350	ng/m³ Air	1.3835		98.9	80-120			SL
Arsenic	2.73	0.00889	ng/m³ Air	2.7664		98.7	80-120			
Barium	27.0	1.54	ng/m³ Air	27.686		97.6	80-120			
Beryllium	1.26	0.00190	ng/m³ Air	1.3836		91.1	80-120			
Cadmium	1.40	0.00512	ng/m³ Air	1.3839		101	80-120			
Chromium	14.6	2.44	ng/m³ Air	13.832		106	80-120			
Cobalt	1.34	0.0520	ng/m³ Air	1.3835		96.8	80-120			
Copper	29.1	0.752	ng/m³ Air	27.686		105	80-120			
Lead	13.7	0.134	ng/m³ Air	13.833		99.1	80-120			
Manganese	8.64	0.557	ng/m³ Air	8.2792		104	80-120			
Molybdenum	1.34	0.394	ng/m³ Air	1.3831		97.2	80-120			
Nickel	2.75	0.739	ng/m³ Air	2.7667		99.5	80-120			
Selenium	2.75	0.0101	ng/m³ Air	2.7661		99.6	80-120			
Thallium	0.134	8.61E-4	ng/m³ Air	0.13828		96.9	80-120			
Vanadium	2.74	0.0458	ng/m³ Air	2.7700		98.8	80-120			
Zinc	ND	114	ng/m³ Air	82.975			80-120			U
Duplicate (B5B2506-DUP1)		**Source: 5022427-12**		Prepared & Analyzed: 02/25/25						
Antimony	0.112	0.0274	ng/m³ Air		0.111			0.649	10	SL
Arsenic	0.257	0.00697	ng/m³ Air		0.252			2.05	10	
Barium	3.33	1.21	ng/m³ Air		3.37			1.35	10	
Beryllium	0.00570	0.00149	ng/m³ Air		0.00567			0.605	10	
Cadmium	0.0509	0.00401	ng/m³ Air		0.0486			4.64	10	
Chromium	ND	1.91	ng/m³ Air		ND				10	U
Cobalt	0.155	0.0408	ng/m³ Air		0.153			1.27	10	
Copper	36.3	0.590	ng/m³ Air		33.9			6.56	10	
Lead	0.409	0.105	ng/m³ Air		0.442			7.80	10	
Manganese	5.67	0.437	ng/m³ Air		5.41			4.79	10	
Molybdenum	1.46	0.309	ng/m³ Air		1.35			7.76	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Duplicate (B5B2506-DUP1) Continued			**Source: 5022427-12**		Prepared & Analyzed: 02/25/25					
Nickel	0.916	0.579	ng/m³ Air		0.966			5.31	10	
Selenium	0.443	0.00792	ng/m³ Air		0.468			5.38	10	
Thallium	0.00685	6.75E-4	ng/m³ Air		0.00679			0.926	10	
Vanadium	0.963	0.0359	ng/m³ Air		0.931			3.34	10	
Zinc	ND	89.4	ng/m³ Air		ND				10	U
Duplicate (B5B2506-DUP2)			**Source: 5022427-19**		Prepared: 02/25/25 Analyzed: 02/26/25					
Antimony	0.104	0.0289	ng/m³ Air		0.113			8.76	10	SL
Arsenic	0.146	0.00733	ng/m³ Air		0.133			9.84	10	
Barium	2.63	1.27	ng/m³ Air		2.72			3.44	10	
Beryllium	0.00487	0.00157	ng/m³ Air		0.00500			2.66	10	
Cadmium	0.0186	0.00422	ng/m³ Air		0.0221			17.2	10	
Chromium	ND	2.01	ng/m³ Air		ND				10	U
Cobalt	0.142	0.0429	ng/m³ Air		0.143			1.11	10	
Copper	33.6	0.620	ng/m³ Air		36.0			6.74	10	
Lead	0.295	0.111	ng/m³ Air		0.348			16.6	10	
Manganese	5.19	0.459	ng/m³ Air		5.02			3.36	10	
Molybdenum	1.36	0.325	ng/m³ Air		1.39			1.94	10	
Nickel	0.735	0.610	ng/m³ Air		0.705			4.09	10	
Selenium	0.162	0.00833	ng/m³ Air		0.160			1.26	10	
Thallium	0.00193	7.10E-4	ng/m³ Air		0.00191			0.853	10	
Vanadium	0.748	0.0378	ng/m³ Air		0.742			0.678	10	
Zinc	ND	94.0	ng/m³ Air		ND				10	U
Duplicate (B5B2506-DUP3)			**Source: 5022427-02**		Prepared: 02/25/25 Analyzed: 02/26/25					
Antimony	0.447	0.0268	ng/m³ Air		0.445			0.493	10	SL
Arsenic	0.307	0.00682	ng/m³ Air		0.310			0.887	10	
Barium	9.90	1.18	ng/m³ Air		9.89			0.160	10	
Beryllium	0.0175	0.00146	ng/m³ Air		0.0180			2.82	10	
Cadmium	0.0168	0.00393	ng/m³ Air		0.0164			2.28	10	
Chromium	2.32	1.87	ng/m³ Air		2.32			0.173	10	
Cobalt	0.495	0.0399	ng/m³ Air		0.489			1.17	10	
Copper	57.3	0.577	ng/m³ Air		57.5			0.325	10	
Lead	0.833	0.103	ng/m³ Air		0.829			0.475	10	
Manganese	17.1	0.427	ng/m³ Air		17.0			0.654	10	
Molybdenum	3.13	0.302	ng/m³ Air		3.13			0.134	10	
Nickel	1.63	0.567	ng/m³ Air		1.62			0.578	10	
Selenium	0.268	0.00774	ng/m³ Air		0.275			2.32	10	
Thallium	0.00212	6.60E-4	ng/m³ Air		0.00221			4.54	10	
Vanadium	2.09	0.0351	ng/m³ Air		2.07			0.779	10	

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Duplicate (B5B2506-DUP3) Continued		**Source: 5022427-02**		Prepared: 02/25/25 Analyzed: 02/26/25						
Zinc	ND	87.4	ng/m³ Air		ND				10	U
Duplicate (B5B2506-DUP4)		**Source: 5022427-30**		Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.0885	0.0281	ng/m³ Air		0.0897			1.29	10	SL
Arsenic	0.145	0.00714	ng/m³ Air		0.148			2.07	10	
Barium	3.32	1.24	ng/m³ Air		3.32			0.0222	10	
Beryllium	0.00451	0.00152	ng/m³ Air		0.00426			5.68	10	
Cadmium	0.0539	0.00411	ng/m³ Air		0.0529			1.83	10	
Chromium	ND	1.96	ng/m³ Air		ND				10	U
Cobalt	0.133	0.0417	ng/m³ Air		0.133			0.178	10	
Copper	36.2	0.604	ng/m³ Air		36.2			0.102	10	
Lead	0.358	0.108	ng/m³ Air		0.357			0.169	10	
Manganese	4.62	0.447	ng/m³ Air		4.61			0.240	10	
Molybdenum	1.39	0.316	ng/m³ Air		1.38			0.951	10	
Nickel	0.813	0.593	ng/m³ Air		0.812			0.117	10	
Selenium	0.178	0.00811	ng/m³ Air		0.190			6.39	10	
Thallium	8.20E-4	6.91E-4	ng/m³ Air		8.33E-4			1.61	10	
Vanadium	0.792	0.0368	ng/m³ Air		0.788			0.533	10	
Zinc	ND	91.5	ng/m³ Air		ND				10	U
Matrix Spike (B5B2506-MS1)		**Source: 5022427-12**		Prepared & Analyzed: 02/25/25						
Antimony	0.819	0.0274	ng/m³ Air	1.0848	0.111	65.2	80-120			SL
Arsenic	2.39	0.00697	ng/m³ Air	2.1692	0.252	98.4	80-120			
Barium	24.5	1.21	ng/m³ Air	21.709	3.37	97.3	80-120			
Beryllium	1.08	0.00149	ng/m³ Air	1.0849	0.00567	98.8	80-120			
Cadmium	1.14	0.00401	ng/m³ Air	1.0851	0.0486	100	80-120			
Chromium	12.9	1.91	ng/m³ Air	10.846	ND	119	80-120			
Cobalt	1.21	0.0408	ng/m³ Air	1.0848	0.153	97.8	80-120			
Copper	55.9	0.590	ng/m³ Air	21.709	33.9	101	80-120			
Lead	11.3	0.105	ng/m³ Air	10.847	0.442	100	80-120			
Manganese	12.4	0.437	ng/m³ Air	6.4919	5.41	108	80-120			
Molybdenum	2.50	0.309	ng/m³ Air	1.0845	1.35	106	80-120			
Nickel	3.04	0.579	ng/m³ Air	2.1694	0.966	95.8	80-120			
Selenium	2.58	0.00792	ng/m³ Air	2.1689	0.468	97.3	80-120			
Thallium	0.112	6.75E-4	ng/m³ Air	0.10843	0.00679	97.4	80-120			
Vanadium	3.12	0.0359	ng/m³ Air	2.1720	0.931	101	80-120			
Zinc	ND	89.4	ng/m³ Air	65.062	ND		80-120			U
Matrix Spike (B5B2506-MS2)		**Source: 5022427-19**		Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	0.854	0.0289	ng/m³ Air	1.1411	0.113	64.9	80-120			SL
Arsenic	2.39	0.00733	ng/m³ Air	2.2818	0.133	98.9	80-120			

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Matrix Spike (B5B2506-MS2) Continued Source: 5022427-19 Prepared: 02/25/25 Analyzed: 02/26/25										
Barium	25.2	1.27	ng/m³ Air	22.836	2.72	98.6	80-120			
Beryllium	1.12	0.00157	ng/m³ Air	1.1412	0.00500	98.1	80-120			
Cadmium	1.19	0.00422	ng/m³ Air	1.1415	0.0221	102	80-120			
Chromium	13.2	2.01	ng/m³ Air	11.409	ND	115	80-120			
Cobalt	1.25	0.0429	ng/m³ Air	1.1411	0.143	97.2	80-120			
Copper	60.7	0.620	ng/m³ Air	22.836	36.0	108	80-120			
Lead	11.9	0.111	ng/m³ Air	11.410	0.348	101	80-120			
Manganese	12.2	0.459	ng/m³ Air	6.8289	5.02	105	80-120			
Molybdenum	2.57	0.325	ng/m³ Air	1.1408	1.39	104	80-120			
Nickel	3.02	0.610	ng/m³ Air	2.2820	0.705	101	80-120			
Selenium	2.35	0.00833	ng/m³ Air	2.2816	0.160	96.1	80-120			
Thallium	0.112	7.10E-4	ng/m³ Air	0.11406	0.00191	96.1	80-120			
Vanadium	3.01	0.0378	ng/m³ Air	2.2848	0.742	99.4	80-120			
Zinc	96.6	94.0	ng/m³ Air	68.440	ND	141	80-120			
Matrix Spike Dup (B5B2506-MSD1) Source: 5022427-12 Prepared & Analyzed: 02/25/25										
Antimony	0.844	0.0274	ng/m³ Air	1.0848	0.111	67.5	80-120	3.02	20	SL
Arsenic	2.40	0.00697	ng/m³ Air	2.1692	0.252	99.1	80-120	0.686	20	
Barium	24.5	1.21	ng/m³ Air	21.709	3.37	97.2	80-120	0.127	20	
Beryllium	1.10	0.00149	ng/m³ Air	1.0849	0.00567	100	80-120	1.68	20	
Cadmium	1.15	0.00401	ng/m³ Air	1.0851	0.0486	102	80-120	1.29	20	
Chromium	12.8	1.91	ng/m³ Air	10.846	ND	118	80-120	0.581	20	
Cobalt	1.21	0.0408	ng/m³ Air	1.0848	0.153	97.7	80-120	0.0463	20	
Copper	55.5	0.590	ng/m³ Air	21.709	33.9	99.5	80-120	0.669	20	
Lead	11.4	0.105	ng/m³ Air	10.847	0.442	101	80-120	0.984	20	
Manganese	12.2	0.437	ng/m³ Air	6.4919	5.41	104	80-120	1.72	20	
Molybdenum	2.47	0.309	ng/m³ Air	1.0845	1.35	103	80-120	1.13	20	
Nickel	2.97	0.579	ng/m³ Air	2.1694	0.966	92.2	80-120	2.59	20	
Selenium	2.56	0.00792	ng/m³ Air	2.1689	0.468	96.5	80-120	0.664	20	
Thallium	0.113	6.75E-4	ng/m³ Air	0.10843	0.00679	98.1	80-120	0.632	20	
Vanadium	3.08	0.0359	ng/m³ Air	2.1720	0.931	99.0	80-120	1.18	20	
Zinc	ND	89.4	ng/m³ Air	65.062	ND		80-120		20	U
Matrix Spike Dup (B5B2506-MSD2) Source: 5022427-19 Prepared: 02/25/25 Analyzed: 02/26/25										
Antimony	0.858	0.0289	ng/m³ Air	1.1411	0.113	65.3	80-120	0.462	20	SL
Arsenic	2.39	0.00733	ng/m³ Air	2.2818	0.133	99.1	80-120	0.166	20	
Barium	25.6	1.27	ng/m³ Air	22.836	2.72	100	80-120	1.40	20	
Beryllium	1.16	0.00157	ng/m³ Air	1.1412	0.00500	101	80-120	3.21	20	
Cadmium	1.18	0.00422	ng/m³ Air	1.1415	0.0221	102	80-120	0.291	20	
Chromium	13.3	2.01	ng/m³ Air	11.409	ND	117	80-120	1.07	20	

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
SUBMITTED: 02/24/25
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Matrix Spike Dup (B5B2506-MSD2) Conti		**Source: 5022427-19**			Prepared: 02/25/25 Analyzed: 02/26/25					
Cobalt	1.25	0.0429	ng/m³ Air	1.1411	0.143	97.2	80-120	0.0684	20	
Copper	63.2	0.620	ng/m³ Air	22.836	36.0	119	80-120	4.01	20	
Lead	11.8	0.111	ng/m³ Air	11.410	0.348	100	80-120	0.462	20	
Manganese	12.2	0.459	ng/m³ Air	6.8289	5.02	106	80-120	0.666	20	
Molybdenum	2.71	0.325	ng/m³ Air	1.1408	1.39	116	80-120	5.18	20	
Nickel	2.98	0.610	ng/m³ Air	2.2820	0.705	99.7	80-120	1.15	20	
Selenium	2.40	0.00833	ng/m³ Air	2.2816	0.160	98.0	80-120	1.76	20	
Thallium	0.112	7.10E-4	ng/m³ Air	0.11406	0.00191	96.7	80-120	0.569	20	
Vanadium	2.99	0.0378	ng/m³ Air	2.2848	0.742	98.3	80-120	0.865	20	
Zinc	97.4	94.0	ng/m³ Air	68.440	ND	142	80-120	0.838	20	
Post Spike (B5B2506-PS1)		**Source: 5022427-12**			Prepared & Analyzed: 02/25/25					
Antimony	0.329	0.0274	ng/m³ Air	0.21687	0.111	100	75-125			SL
Arsenic	1.31	0.00697	ng/m³ Air	1.0844	0.252	97.6	75-125			
Barium	5.46	1.21	ng/m³ Air	2.1687	3.37	96.2	75-125			
Beryllium	0.225	0.00149	ng/m³ Air	0.21687	0.00567	101	75-125			
Cadmium	0.161	0.00401	ng/m³ Air	0.10844	0.0486	104	75-125			
Chromium	2.51	1.91	ng/m³ Air	1.0844	ND	232	75-125			
Cobalt	0.369	0.0408	ng/m³ Air	0.21687	0.153	99.7	75-125			
Copper	46.1	0.590	ng/m³ Air	10.844	33.9	112	75-125			
Lead	22.1	0.105	ng/m³ Air	21.687	0.442	99.7	75-125			
Manganese	7.69	0.437	ng/m³ Air	2.1687	5.41	105	75-125			
Molybdenum	2.41	0.309	ng/m³ Air	1.0844	1.35	98.1	75-125			
Nickel	3.10	0.579	ng/m³ Air	2.1687	0.966	98.2	75-125			
Selenium	1.49	0.00792	ng/m³ Air	1.0844	0.468	94.7	75-125			
Thallium	0.0605	6.75E-4	ng/m³ Air	5.4218E-2	0.00679	99.1	75-125			
Vanadium	2.02	0.0359	ng/m³ Air	1.0844	0.931	101	75-125			
Zinc	ND	89.4	ng/m³ Air	21.687	ND		75-125			U
Post Spike (B5B2506-PS2)		**Source: 5022427-19**			Prepared: 02/25/25 Analyzed: 02/26/25					
Antimony	0.343	0.0289	ng/m³ Air	0.22813	0.113	101	75-125			SL
Arsenic	1.24	0.00733	ng/m³ Air	1.1407	0.133	97.4	75-125			
Barium	4.90	1.27	ng/m³ Air	2.2813	2.72	95.6	75-125			
Beryllium	0.240	0.00157	ng/m³ Air	0.22813	0.00500	103	75-125			
Cadmium	0.139	0.00422	ng/m³ Air	0.11407	0.0221	102	75-125			
Chromium	2.36	2.01	ng/m³ Air	1.1407	ND	207	75-125			
Cobalt	0.370	0.0429	ng/m³ Air	0.22813	0.143	99.2	75-125			
Copper	48.3	0.620	ng/m³ Air	11.407	36.0	108	75-125			
Lead	23.0	0.111	ng/m³ Air	22.813	0.348	99.4	75-125			
Manganese	7.38	0.459	ng/m³ Air	2.2813	5.02	104	75-125			

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FILE #: 4205.00.003.001
REPORTED: 03/04/25 13:23
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Post Spike (B5B2506-PS2) Continued		**Source: 5022427-19**		Prepared: 02/25/25 Analyzed: 02/26/25						
Molybdenum	2.47	0.325	ng/m³ Air	1.1407	1.39	94.5	75-125			
Nickel	2.95	0.610	ng/m³ Air	2.2813	0.705	98.3	75-125			
Selenium	1.30	0.00833	ng/m³ Air	1.1407	0.160	100	75-125			
Thallium	0.0580	7.10E-4	ng/m³ Air	5.7033E-2	0.00191	98.3	75-125			
Vanadium	1.88	0.0378	ng/m³ Air	1.1407	0.742	99.6	75-125			
Zinc	ND	94.0	ng/m³ Air	22.813	ND		75-125			U
Dilution Check (B5B2506-SRL1)		**Source: 5022427-12**		Prepared & Analyzed: 02/25/25						
Antimony	ND	0.137	ng/m³ Air		ND				10	SL, U
Arsenic	0.250	0.0349	ng/m³ Air		0.252			0.690	10	
Barium	ND	6.04	ng/m³ Air		ND				10	U
Beryllium	ND	0.00745	ng/m³ Air		ND				10	U
Cadmium	0.0480	0.0201	ng/m³ Air		0.0486			1.19	10	
Chromium	ND	9.57	ng/m³ Air		ND				10	U
Cobalt	ND	0.204	ng/m³ Air		ND				10	U
Copper	34.0	2.95	ng/m³ Air		33.9			0.178	10	
Lead	ND	0.525	ng/m³ Air		ND				10	U
Manganese	5.43	2.18	ng/m³ Air		5.41			0.500	10	
Molybdenum	ND	1.54	ng/m³ Air		ND				10	U
Nickel	ND	2.90	ng/m³ Air		ND				10	U
Selenium	0.457	0.0396	ng/m³ Air		0.468			2.36	10	
Thallium	0.00805	0.00338	ng/m³ Air		0.00679			17.0	10	
Vanadium	0.930	0.180	ng/m³ Air		0.931			0.149	10	
Zinc	ND	447	ng/m³ Air		ND				10	U
Dilution Check (B5B2506-SRL2)		**Source: 5022427-19**		Prepared: 02/25/25 Analyzed: 02/26/25						
Antimony	ND	0.144	ng/m³ Air		ND				10	SL, U
Arsenic	0.139	0.0367	ng/m³ Air		0.133			4.33	10	
Barium	ND	6.35	ng/m³ Air		ND				10	U
Beryllium	ND	0.00784	ng/m³ Air		ND				10	U
Cadmium	0.0217	0.0211	ng/m³ Air		0.0221			2.23	10	
Chromium	ND	10.1	ng/m³ Air		ND				10	U
Cobalt	ND	0.214	ng/m³ Air		ND				10	U
Copper	36.0	3.10	ng/m³ Air		36.0			0.0602	10	
Lead	ND	0.553	ng/m³ Air		ND				10	U
Manganese	5.05	2.30	ng/m³ Air		5.02			0.745	10	
Molybdenum	ND	1.62	ng/m³ Air		ND				10	U
Nickel	ND	3.05	ng/m³ Air		ND				10	U
Selenium	0.185	0.0417	ng/m³ Air		0.160			14.4	10	
Thallium	ND	0.00355	ng/m³ Air		ND				10	U

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B5B2506 - ICP-MS Extraction										
Dilution Check (B5B2506-SRL2) ContinueSource: 5022427-19 Prepared: 02/25/25 Analyzed: 02/26/25										
Vanadium	0.739	0.189	ng/m³ Air		0.742			0.457	10	
Zinc	ND	470	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 03/04/2025 and Shanna Vasser 03/06/2025
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 02/13/2025 – 02/19/2025
Report No: 5022427

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-021925-HM.

Notes: None.